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THE

PHYSICIAN AND SURGEON

A MONTHLY MAGAZINE,

DEVOTED TO MEDICAL AND SURGICAL SCIENCE.

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THE
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VOLUME IV. JANUARY, 1882. NUMBER I.

ORIGINAL ARTICLES.

FATAL CASE OF PERITONITIS: WITH AUTOPSY.

BY L. M. HALL, M. D., SOUTH FRAMINGHAM, MASSACHUSETTS,
Physician to Reformatory Prison for Women.

Mary Anderson, aged twenty-six, single, intemperate and lewd, committed to reformatory prison July 8, 1880, bringing with her an anæmic looking child seven months old. In giving her history she said she had contracted a "*disease*" three or four months previously. The woman was pale and poorly nourished. Soon after her committal she suffered from pains in her legs accompanied by irregular swellings and patches of erythematous eruption circular in form, which from bright red changed to purple, and, under antisyphilitic treatment, finally disappeared. After this, from time to time, she complained of wandering pains in the muscles, indigestion and a mucopurulent discharge from the vagina, her general health remaining very poor.

On December 1, a little after midnight she complained of pain which she referred to the pelvic region, said also that for the two previous weeks she had not felt well, that she had suffered greatly from thirst and had drank much cold water. Sinapisms were applied to the hypogastrium and Hayden's viburnum compound given in hot water, apparent relief following. During the day she remained in bed, complaining of headache and pain in the urethra and pelvis, also of feeling very nervous. Spir. aeth. nit. was given and at night Dover's powder.

December 2, 8 o'clock A. M: Temperature 101 4-5; pulse 120; countenance indicative of great pain and anxiety; thirst excessive; entire surface of abdomen somewhat sensitive to pressure; bowels constipated; nausea and vomiting with much distress in stomach; patient restless and uneasy and inclined to talk incessantly making special complaint of pain in external genitals; was constantly shifting her position and did not lie with legs drawn up. Hot cataplasms were applied over entire abdomen, their weight causing no complaint; the catheter passed and six ounces of highly colored urine drawn, specific gravity 130; urates abundant. Quinine and tincture of opii were administered per rectum and the most absolute quiet enjoined. At 10:30 A. M., morphia sulphate .01 gram was administered hypodermically, the dose repeated once in two hours until the respirations fell to eight per minute, slight disturbance causing them to become short, superficial and jerky.

December 3, 6 A. M: Temperature in mouth 100 9-10, in vagina 103 9-10; pulse 132, thready; abdomen tympanitic; face ghastly; upper lips drawn sharply across teeth; thirst excessive. Brandy and egg every hour was ordered, also quinine sulphate .6 gram. Applications of ice to abdomen seemed to give the patient much comfort. The narcotics were still pushed to the limits of safety. At 1 A. M., vomiting again set in, was controlled by enemata of beef tea and bromide of potassium. At about this time the skin of the abdomen was noticed, especially at the left side, to be of a livid hue, and irregular prominences were noticed upon the same side. At 9;30 A. M., the abdomen was aspirated, to the left and a little below the umbilicus for the withdrawal of gas. The patient seemed to be somewhat relieved by this, passing a comparatively comfortable night.

December 4, 9 A. M: Temperature 100 4-5 in mouth, 101 4-5 in vagina; pulse steady, 120. Later, vomiting, or rather regurgitation of intensely acid, greenish brown fluid occurred, followed by free movement of the bowels, the stools being copious, semi-fluid and of a very dark green color. The abdomen was now flacid and entirely free from pain or tenderness. From this time the patient sank rapidly; delerium with great restlessness and jactitation supervening, also a most distressing sense of suffocation. The thirst was extreme. At 7 P. M., the delerium became wild and uncontrolable, the patient being with difficulty restrained in bed. Pupils widely dilated and aspect ghastly and terrible. Large doses of morphia finally induced a state of partial quiet, contortions of the facial muscles and rapid jerking from side to side of the eyes remaining. Death occurred at 8:15 P. M.

Autopsy Fifteen Hours After Death.—Rigor mortis but slightly established, body poorly nourished, decomposition advancing rapidly. Abdominal cavity was found filled with a turbid, greenish, puriform fluid. Parietal and visceral layers of peritonæum deeply injected and adherent to each other. Intestines inflated with gas, depressions between their folds filled with green jelly-like masses of inflammatory exudate; congestion especially marked over entire extent of small intestine, the folds being firmly glued together by inflammatory adhesions, especially in the lower portions of the abdomen. On a line with the upper border of the pubes, extending two and one half centimeters to right and four centimeters to left of the median line, forming a pocket downward and backward, was found a layer of thick, white, firm, false membranous tissue, adhering strongly to surrounding structures and enclosing a mass of deeply congested, exudate covered intestine, the folds firmly agglutinated together, presenting here and there patches of bloody extravasations. Closer examination revealed a small round perforation of the ileum, bounded by shapely cut edges, located twenty-one centimeters from the ileo-cæcal valve and close to the attatchment of the mesentery. Diameter of perforation three millimeters. The interior of the gut showed the mucous membrane eaten away forming a circle considerably larger than the opening described. Contents of intestine clay colored and of gluey consistence. The large intestine presented along the entire extent of the attachment of the meso-colon, inflammatory new formations which had been rapidly passing into a condition of organized membrane. Stomach nearly empty, greatly enlarged with mucous surface a good deal congested. Liver bound to diaphragm by old inflammatory adhesions. Substance of organ light in color and peculiarly dry and resistant to touch. Left lobe and lobulus spigelii showed upon section a greenish black discoloration one centimeter in depth. No further abnormalities were discovered. Cavity of uterus was found filled with a clot of blood.

SUPERNUMERARY FINGER.

BY THOMAS J. SULLIVAN, M. D.,
Assistant to the Professor of Surgery and Clinical Surgery in the University of Michigan.

Master S. C., age nine years, admitted to the hospital to-day. This is a case of supernumerary finger on the right hand. This is the only abnormality that the patient presents, and the only one in the family.

Patient placed under the influence of chloroform and the finger removed by means of two incisions, one being made on the dorsal aspect and the other on the palmer surface. Upon dissection the finger was found to consist of three digits, somewhat smaller and shorter than those of the little finger of that hand. The first phalanx articulated with that of the head of the fifth metacarpal bone in common with the next phalanx.

DOSES OF CERTAIN PREPARATIONS THAT ARE NOT GIVEN IN STEWART'S DOSE-BOOK.*

BY W. H. SMITH, M. D., PH. D., SAINT CLAIR, MICHIGAN.

Medical men occasionally desire to refer to the doses of a drug, and find it convenient to have these arranged in an accessible form. The excellent dose-books of Stewart and Leonard present a large amount of matter in a shape that renders it readily accessible. The former of these has been very serviceable to me in my work as a practitioner, but occasionlly I have desired to use a drug of which the dose was not given in the work. A list of these was at first kept for my own convenience, and afterwards other material was added making it more complete and serviceable. In this form it may answer as a supplement to the dose-book. That some of the drugs given are rarely if ever used, is true, but the specifying of these can do no harm, whereas the omission of the preparation, if desired by the prescriber, would be a serious drawback. That other preparations are coming and will come into use rendering additions to any list of doses necessary must be plainly apparent. This results of necessity from the advancing and changing states of medical science. While, then, not aiming at perfection in this respect, the following partial list is presented in the hope that it may be found useful to others, and be in a convenient form for reference.

TECHNICAL NAME.	COMMON NAME.	DOSE.	MANUFACTURERS OR PLACE DESCRIBED.
Abies balsamea,	Balsam fir,	grs. v-xx,	Dispens.
Abies canadensis, Infus. comp.	Hemlock spruce,	ʒ ss-℥ ss,	Dispens.
Abies excelsa,		grs iij-viij,	Dispens.
Abies picea,	Silver fir,	Externally,	Dispens.
Achyranthes, decoc.		Freely,	Dung.
Aconitum anthora, R.	Salutary monkhood,	℈ ss-j,	Dung.
Acorus (see calamus),	Sweet grass,		
Actæa alba (see Cimicifuga),	Black cohosh,		
Aesculin,		grs. v-xxx,	Dispens.
Aesculus glabra, Ext. Fld.	Buckeye,	gtts. iij-v,	P. D. & Co.
Aether terebinthinatus,	Terebinthinated æther,	gtts. xx-xl,	Dung.

---

*In this paper the abbreviations signify as follows: Dispens., American Dispensatory; P. D. & Co., Parke, Davis & Co.; McK & R., McKesson & Robbins; W. S. M. & Co., W. S. Merrill & Co.; Dung., Dunglison's Medical Dictionary; and T. P. & S., THE PHYSICIAN AND SURGEON.

TECHNICAL NAME.	COMMON NAME.	DOSE.	MANUFACTURERS OR PLACE DESCRIBED.
Aethusa,	Fool's parsley,		Dung.
Agaric (see Boletus),	Larch agaric,		
Ajuga chamaepitys,	Ground pine,		Dispens.
Tinct.		ʒ ss-j,	
Alnus (see Rhamnus frangula),			
Alstonia scholaris,	Dita bark,		
Ext. Fld.		gtts. ij-viij,	P. D & Co.
Ambrosia,	Ragweed,	grs. j-iij,	Dispens.
Decoc.		℥ j-ij,	Dispens.
Amygdala persica,	Peach leaves,		
Infus.		℥ ss,	Dispens.
Ext. Fld.		gtts. ij-x	W. S. M. & Co.
Anacyclus pyrethrum	Spanish chamomile, or pellotory,	gtts. xxx,	Dispens.
Oleum.			
Anda gomesii, Oleum,	Andassu seeds,	gtts. l-lx,	Dung.
Andira inermis,		grs. x-xxx,	Dispens.
Decoc.		℥ ss,	Dispens.
Andromeda arborea,	Sorrel or sour tree,	ad lib.	Dispens.
Anemone nemoosa,	Wood anemone	gr. j-ij,	Dispens.
Anisodus luridus,	Nicandra,		Dung.
Tinct.		gtts. ij-x,	
Antennaria margaritacea,	Pearly everlasting,		Dispens.
Antirrhinum,	Toadflax,		Dung.
Apis mellifica,	Honey bee,		
Tinct.		gtts. j-ij,	W. S. M. & Co.
Arbor vita (see Thuja)			
Aralia,	Ginseng,		
Syr. comp.		ʒj-ʒjv,	Dispens.
Aralia spinosa,	Angelica tree,		
Tinct.		gtts. x-lx,	Dispens.
Arctium lappa,	Burdock,		
Syr.		grs. v-xx,	Dispens.
Arctostapyhlosglabrica,	Manzamta leaves,		P. D. & Co.
Ext. Fld.		gtts. xx-lx,	
Artemisia abrotanum,	Southern wood		W. S. M. & Co.
Ext. Fld.			
Asarum europeum,	Ginger,	grs. x-ʒj,	Dispens.
Asclepias curassavica,	Bastard ipecacuanha,		
Ext. Fld.		ʒ ss,	P. D. & Co.

TECHNICAL NAME.	COMMON NAME.	DOSE.	MANUFACTURERS OR PLACE DESCRIBED.
Asimina (see Uvaria),			
Aspidosperma,	Quebracho b'rk	grs. x-xx,	P. D. & Co.
Ext. Fld.		gtts. xx-ʒj	P. D. & Co.
Aster,	Starwort,		
Infus.		℥j.℥jv,	Dispens.
Tinct.		ʒss -ʒij,	Dispens.
Baptisia tinctoria,	Wild indigo,		
Ext.		gr, ¼-ij,	Dispens.
Baptisia alba,	White flowered wild indigo,		
Ext.		grs. j-jv,	Dispens.
Decoc.		℥ ss,	Dispens.
Baycuru,			
Infus.		℥j,	P. D. & Co.
Tinct.		ʒj-ij,	P. D. & Co.
Bay laurel (see Myrcilæ),			
Bearsfoot (see Polymnia),			
Berberis aquifolium,			
Ext. Fld.		gtts.xv-xxx	P. D. & Co.
Betonica officinalis,	Wood betony,		
Ext. Fld.		♏ xv-ʒj	P. D. & Co.
Bidens connata,	Swamp beggar-tricks,		
Infus.		Freely,	Dispens.
Bidens frondosa,	Common beggar-tricks,		
Infus.		℥ ss,	
Boletus laricis,	Larch agaric,	grs. iij-ʒ ss,	Dispens.
Tinct.		gtts. ss,	W.S. M. & Co.
Bromidia,		℥ ss-j,	Battle & Co.
Buckeye (see Aesculus),			
Button bush (see Cephalanthus),			
Calcium muriate,		grs. xx,	
Calendula,	Marigold,		
Ext.		grs. jv-vj,	Dispens.
Tinct.		gtts. j-jss,	W. S. M. & Co.
California laurel (see Tetranthera),			
Callitriche verna,	Water starwort	ad. lib.	Dispens.
Ext. Fld.		gtts, x-xxx	P. D. & Co.
Calycanthus floridus,	Florida allspice,		

TECHNICAL NAME.	COMMON NAME.	DOSE.	MANUFACTURERS OR PLACE DESCRIBED.
Capsella bursa-pastoris,	Shepherd's purse,		
Ext. Fld.		♏ xv-ʒj,	P. D. & Co.
Caroba(seeJacaranda)			
Casça (see Erythrophlœi),			
Caulophyllum,	Blue cohosh,		
Tinct. Comp.		♏ xv-ʒj,	Dispens.
Ceanothus,	Red root or New Jersey tea,		
Cedron (see simaruba)			
Syr. Comp.		ʒj-jv,	Dispens.
Cephalanthus occidentalis,	Button bush,		Dispens.
Ext. Fld.		ʒ ss-j,	P. D. & Co.
Cercis canadensis,	Judas tree,		
Ext. Fld.		gtts xv-xxx	P. D. & Co.
Cereus Bonplandii,	Bonpland's cactus,		
Ext. Fld.		gtts. x-xxx	P.D. & Co.
Cereus McDonaldii,	McDonald's cactus,		
Ext. Fld.		gtts. x-xxx,	P. D. & Co.
Chaulmoogra oil,		gtts. v-viij,	P. D. & Co.
Chionanthus virgi'cus	Fringe tree,		
Ext. Fld.		gtts. x-xl,	W. S. M. & Co.
Infus.		℥ ss-ij,	Dispens.
Cichorium intybus,	Wild succory,		
Decoc.		ad lib.	Dispens.
Cimicifuga,	Black cohosh,		
Tinct. Comp.		♏ x-ʒj,	Dispens.
Cirsium arvense,	Canada thistle,		Dispens.
Clematis virginica,	Virgin's bower,		
Ext.		grs. j-ij,	Dispens.
Coca (see Eryt'xylon)			
Cochlearia armoracia,	Horse-radish,	ʒj-ij,	Dispens.
Infus.		ad lib.	Dispens.
Syr. Comp.		ʒj-jv.	Dispens.
Cornu cervinæ ustum,	Burnt horn,	ʒj,	Dispens.
Infus.		℥ ss,	Dispens.
Corydalis formosa,	Turkey corn,		
Tinct. Comp.		ʒ ss-℥j,	Dispens.
Syr. Comp.		ʒj,	Dispens.
Couch grass(see Tri'm)			
Cundurängo,			
Ext. Fld.		♏ xxx-ʒj,	McK & R.

TECHNICAL NAME.	COMMON NAME.	DOSE.	MANUFACTURERS OR PLACE DESCRIBED.
Cuprum,	Copper,		
Tinct.		gtts. v-xx,	W. S. M. & Co.
Cynara scolymus,	Artichoke,		
Ext.		grs. iij-vj,	Dispens.
Tinct.		gtts. xxx-lx	Dispens.
Cynoglossum officinale,	Hound's tongue.	ad lib.	Dispens.
Cyperus articulatus,	Adrue,		
Ext. Fld.		gttsxx-xxx	P. D. & Co.
Delphinium staphisagria,	Larkspur,		
Tinct.		gtts. v-vj,	W. S. M. & Co.
Diervilla canadensis,	Bush honeysuckle,		
Infus.		Freely,	Dispens.
Diospyros kaki,	Japanese persimman,		
Ext. Fld.		gtts. xv-lx,	P. D. & Co.
Dipterix odorata,	Tonca,		
Ext. Fld.			McK. & R.
Dita (see Alstonia),			
Drosera rotundifolia,	Sundew,		
Ext. Fld.		gtts. v-xx,	P. D. & Co.
Tinct.		ʒj-℥ ss,	McK. &. R.
Drynus (see Wintera),			
Duboisia myrporoides	Duboisia,		
Ext.		gr, ss-j	
Ext. Fld.		♏ v-x,	P. D. & Co.
Solution.		♏ x-xx,	P. D. & Co.
Epilobium angustifolium et palustre,	Wickup.		
Infus.		ʒj-℥j,	Dispens.
Ext. Fld.		gtts, x-xl,	W. S. M. & Co.
Equisetum hyemale,	Scouring rush,	grs. iij-x,	Dispens.
Infus.		Freely,	
Ext. Fld.			W. S. M. & Co.
Erigeron heterophyllum et phil'delphicum	Fleabane,		Dispens.
Infus.		℥ij-jv,	Dispens.
Erythroxylon coca,	Coca,		
Infus.		ʒiij-jv,	Dispens.
Ext. Alc.		grs. x xv,	Dispens.
Ext. Fld.		ʒij-jv,	P. D. & Co.
Erythrophlei,	Casca,		
Tinct.			T. P. & S.
Ethyl, bromide of		Inhalation,	

TECHNICAL NAME.	COMMON NAME.	DOSE.	MANUFACTURERS OR PLACE DESCRIBED.
Eupatorium aromaticum,	Hempweed,		Dispens.
Infus.		℥ ss-℥jv,	
Eupatorium purpureum,	Trumpet-weed,		
Ext. Fld.			McK. & R.
Eupatorium teucrifolium,	Wild horehound		Dispens.
Infus.		ʒj-jv,	
Euphorbia hypericifolia,	Large spotted spurge,		
Ext. Fld.		gtts. x-xx,	W. S. M. & Co.
Infus.		ʒ ss.	
Euphorbia prostata,	Gallandrinera,		Dispens.
Infus.		℥iij-jv,	
Euphrasia officinalis,	Eyebright,		
Infus.		℥jv,	Dispens.
Evening primrose (see Oenothera,			
Ferri pomati,		grs. v-xx,	McK. & R.
Five-flowered gentian (see Gentiana),			
Florida allspice (see Calycanthus),			
Folia caroba (see Jacaranda),			
Franciscea uniflora,			
Ext. Fld.		gtts. v-xx,	P. D. & Co.
Fraxinus acuminata,	Ash,	ʒiij,	Dispens.
Fraxinus ornus,	Round leaved ash,		
Succus,		℥ ss-℥ij	Dung.
Fuchsine,			M. M. News.
Fucus helminthocorton,		grs. x-ʒj,	Dispens.
Fuligo ligni,	Wood-soot,		
Infus.		℥j-ij,	Dispens.
Ungt.		Externally	
Fumaria officinalis,	Fumitory,		
Infus.		℥j-ij,	Dispens.
Gentiana ochroleuca,	Yellowish-white gentian,		
Infus.		℥ ss-jv,	Dispens,
Geranium maculatum	Cranesbill,	grs. xx-xxx	Dispens.
Decoc.		℥j-ij,	

TECHNICAL NAME.	COMMON NAME.	DOSE.	MANUFACTURERS OR PLACE DESCRIBED.
Gentiana quinqueflora	Five-flowered gentian,		
Ext. Fld.		gtts. x-xxx,	P. D. & Co.
Gerardia pedicularia,	Gerardia,		
Infus.		℥j-iij,	Dispens.
Glonoine,	Nitro-glycerine	gr. $\frac{1}{60}$-$\frac{1}{8}$?	P. D. & Co.
Gonania domingensis,	Chewstick,		
Ext. Fld.		gtts.iij-xxx	P. D. &. Co.
Tinct.		gtts. xv-ʒij	P. D. & Co.
Goodyera pubescens,	Rat'esnake leaf		
Infus.		Freely,	Dispens.
Graphites,	Plumbago,		Dung.
Great laurel (see Rhododendron,			
Grindelia compound,			
Ext. Fld.		ʒj,	P. D. & Co.
Guaco (see Mikania),			
Gurjun balsam,		gttsxx-xxx	P. D. & Co.
Gymnocladus canadensis,	Kentucky coffee-tree,		
Tinct.		ʒj,	Dispens.
Hair-cap moss (see Polytrichum),			
Hedera helix,	Bindwood,	grs. xx,	Dispens.
Helianthus annuus,	Sunflower,		
Ext. Fld.			W. S. M. & Co.
Infus.			Dispens.
Oleum,		gtts. v-xv,	Dispens.
Helenium,	False sunflower		
Ext. Fld.		grs. j-x,	Dispens.
Hepar-sulphuris,	Liver of sulp'ur	ʒ ss-j	Dung.
Hieracium venosum,	Rat'snake weed		
Infus.		℥ij-jv,	Dispens.
Syr.		ʒij-jv,	Dispens.
Hydrochinon,		grs. iij,	T. P. & S.
Hypericum,	St. John's wort		
Tinct.		ʒ ss-ʒj,	Dispens.
Hyssopus officinalis,	Hyssop,		
Ext. Fld.		ʒ ss-j,	McK. & R.
Ignatia amara,	St. Ignatiu's bean,		
Tinct.		gtts. v-x,	Dispens.
Ilex opaca leaves pulv.	American holly	grs. lx,	Dispens.
Ilex paraguayensis,	Paraguay tea,		
Ext. Fld.		ʒ ss-j,	P. D. & Co.
Ilicin,		grs. x-xxx,	

TECHNICAL NAME.	COMMON NAME.	DOSE.	MANUFACTURERS OR PLACE DESCRIBED.
Impatiens pallida,	Touch-me-not,		Dispens.
Indian black root (see Pterocaulon,			
Jacaranda prosera,	Folia caroba,		
Ext. Fld.		gtts. xv-ʒj,	P. D. & Co.
Jamaica dogwood (see Piscidia,			
Jeffersonia diphylla,	Twin leaf,		
Decoc.		℥ij-jv,	Dispens.
Ext. Fld.		♏ x-xx,	McK. & R.
Tinct.		ʒj-iij,	Dispens.
Jersey tea (see Ceanothus),			W. S. M. & Co.
Judas tree (see Cercis)			
Kaki (see Diospyros).			
Kali bichromicum,	Bichromate of potassium,	Externally	Dung.
Kalmia,	American laurel,		
Tinct.		gtts. x-xxx,	Dispens.
Kamala (see Rottlera)			
Kava kava (see Piper Methysticum)			
Lachesis,	Flammon,		Dung.
Lachnanthes tinctoria			
Tinct.		♏ xij,	Dispens.
Larix Americana,	Tamarac,		
Decoc.		℥ij-jv,	Dispens.
Ext. Fld.			W. S. M. & Co.
Tinct. Comp.		♏ss,	Dispens.
Ledum latifolium et palustre,	Labrador tea,		
Decoc.		℥ij-jv,	Dispens.
Leucanthemum vulgare,	Ox-eye daisy,		
Decoc.		℥ij-jv,	Dispens.
Ligustrum vulgare,	Privet,	grs. xxx-xl,	Dispens.
Decoc.		℥ij-jv,	Dispens.
Lilium candidum,	White lily,		Dispens.
Liquidambar,	Sweet gum,		
Syr.		ʒj.	Dispens.
Lobelia et capsicum,			
Tinct. Comp.		ʒ ss-j,	Dispens.
Lythrum salicaria,	Willow herb,	grs. xxx-ʒj,	Dispens.
Decoc.		℥j-iij,	Dispens.
Macrotin,		gr. j,	T. P. & P.

TECHNICAL NAME.	COMMON NAME.	DOSE.	MANUFACTURERS OR PLACE DESCRIBED.
Magnesia borocitrate,		grs. x-xv,	T. P. & S.
Manaca (see Franciscea),			
Mangifera Indica,	Mango,		
Ext. Fld.		gtts. xv-ʒj,	P. D. & Co.
Mannin vel Mannite,		ʒij,	Dung.
Manzanita (see Arctostaphylos),			
Marrubium,	Horehound,		
Infus.		℥ ss-j,	Dung.
Syr. Comp.		℥ ss,	Dispens.
Maruta cotula,	Mayweed,		
Infus.		℥j-jv,	Dispens.
Menthol,	Japanese peppermint,	Externally	P. D. & Co.
Methysticum (see Piper),			
Micromeria (see Yerba buenna),			
Mikania guaco,	Guaco leaves,		
Ext. Fld.		ʒ ss-j,	P. D. & Co.
Mistletoe (see Phorodendron),			
Mitchella repens,	Squaw vine,		
Decoc.		℥ij-jv,	Dispens.
Ext. Fld.		gtts. xx-ʒj,	McK. & R.
Syr. Com.		℥ij-jv,	Dispens.
Monotropa unipora,	Indian pipe or iceplant,	ʒ ss-j,	Dispens.
Mucuna pruiens,	Cowhage,	grs. v-x,	Dung.
Mullein (see Verbascum),			
Myrcia acris,	Bay laurel,		
Ext. Fld.		Used in m'g bay rum,	P. D. & Co.
Myrtus pimenta,	Pimenta allspice,	grs. x-xxx,	Dispens.
Tinct.		ʒj-ij,	Dispens.
Nabalus albus,	Rattlesnake root,		Dispens.
Nuphar advena,	Yel'w pond lily		
Ext. Fld.			W. S. M. & Co.
Oenanthe phellandrium,	Water fennel seed,	grs. jv-x,	Dispens.
Ext.		grs. iij-v,	
Ext. Fld.		gtts. jv-xij,	P. D. & Co.

TECHNICAL NAME.	COMMON NAME.	DOSE.	MANUFACTURERS OR PLACE DESCRIBED.
Oenothera biennis,	Eve'g primrose	Externally	Dispens.
Ext. Fld.		ʒ ss-j,	P. D. & Co.
Oleum bubulum (see Origanum),			Dispens.
Onosmodium virginianum),	False gromwell		
Infus.		℥jv,	Dispens.
Origanum vulgare,	Wild majoram,	Externally	Dispens.
Ornus europea (see Fraximus,)		℥j-ij,	Dispens.
Orobanche virgini'um	Cancer root,	grs. x-xv,	Dispens.
Ext.		grs. iij-x	P. D. Co.
Ext. Fld.		gtts. xv-ʒj,	P. D. & Co.
Oryza sativa,	Rice,	ad lib.	Dispens.
Osmorrhiza longistylis	Sweet cicely,	ad lib.	Dispens.
Osmunda regalis,	Flowering fern,	ʒiij,	Dispens.
Ostrya virginica,	Ironwood,		
Decoc.		℥j-ij,	Dispens.
Ext. Fld.		ʒj,	Dispens.
Oxalis acetosella (see acetosella),			
Ext. Fld.			W. S. M. & Co.
Paraguay tea(see Ilex)			
Parthenium integrefolium,	Prarie dock,		Dispens.
Infus.		℥j-ij,	
Penthorum sedoides,	Ditchstonecrop		
Ext. Fld.		gtts. x-xx,	P. D. & Co.
Petroleum,		gtts. x-xx,	Dispens.
Mass Crude.		grs. iij-v,	P. D. & Co.
Phloridzin,		grs. vj-xx,	Dispens.
Phoradendron flavescens,	Mistletoe,	grs.xxx-ʒj.	Dispens.
Ext. Fld.		ʒ ss-j,	P. D. & Co.
Physalis viscosa,	Ground cherry,		
Succus.		℥j-ij,	Dispens.
Phytolacca decandra,	Pokeweed,		
Syr. Comp.		ʒj,	Dispens.
Picræna (see Quassia)			Dispens.
Pimento (see Myrtus)		Externally	T. P. & S.
Pimpinella (see Anisum),			Dispens.
Pinus palustris,	Yellow pine,	A source ot tupentine,	Dispens.
Pinus sylvestris,	Pin'er, Scot. fir.		
Tinct.		♏ ss-j,	W. S. M. & Co.

TECHNICAL NAME.	COMMON NAME.	DOSE.	MANUFACTURERS OR PLACE DESCRIBED.
Piper methysticum,	Kava Kava,		
Ext.		grs. v-x,	P. D. & Co.
Ext. Fld.		gtts. xxx-lx	P. D. & Co.
Piscidia erythrina,	Jamaica dogwood,		
Ext.		grs. v-xv,	P. D. & Co.
Ext. Fld.		ʒ ss-ij,	P. D. & Co.
Plantago cordata,	Heart-leaved plantain,		Dispens.
Ext.		grs. j-x,	Dispens.
Platanthera orbiculata,	Round-leaved orchis,	Externally	Dung.
Plumbago (see Graphites),			Dung.
Polemonium reptans,	Greek valerian,		
Tinct.		℥jij,	Dispens.
Polygala nultallii,	Nutall's m'kw't		
Decoc.		ʒij-iij,	Dispens.
Polygonum,	Knotweed,		
Tinct.		gtts. x-lx,	Dispens.
Polianthes tuberosa,	Amarncochu leaves,	Externally	Dung.
Polymnia uvedalia,	Bearsfoot,		
Ext.		gr. ¼-ss,	P. D. & Co.
Ext. Fld.		gtts. iij,	P. D, & Co.
Polypodium vulgare (see also Filix mass)	Fern root.	ʒj-jv,	Dispens.
Syr. vel. Decoc.		℥j-jv,	Dispens.
Polytrichum juniperum,	Hair-cap moss,		
Ext. Fld.		ʒj-ij,	P. D. & Co.
Infus.		℥ij,	Bispens.
Populus balsamiferus,	Balsam poplar,		
Ext.		grs. v-xv,	Dispens.
Tinct.		ʒj-jv,	Dispens.
Portulacca,	Purslain,		Dung.
Potentilla canadensis	Five-finger,		Dispens.
Decoc.			Dispens.
Potentilla reptans,	Cinquefoil,		
Ext. Fld.		ʒ ss-j,	McK. & R.
Prunus virginianus, misnomer for Prunus serotina,	Wild black cherry,		
Ext.		grs. j-ij,	
Ptelea,	Shrubby trefoil		
Ext.		grs. ij-x,	Dispens.

TECHNICAL NAME.	COMMON NAME.	DOSE.	MANUFACTURERS OR PLACE DESCRIBED.
Pteris atropurpureus,	Rockbrake,		
Infus.		℥ ss,	Dispens.
Pterocanlon pycnostachium,	Indian black root,		
Ext. Fld.		gtts. xv-ʒj	P. D. & Co.
Pyneanthemum pilosum,	Downy mountain mint,		
Infus,		℥j-jv,	Dispens.
Pyrola rotundifolia,	Round-leaved wintergreen,		
Ext.		grs. ij-v,	Dispens.
Decoc.		ʒj-ij,	Dispens.
Pyroxylicus,	Acetone,		
Sprts.		gtts. v-xx,	Dispens.
Pyrus malus,	Apple,	ad lib.,	
Decoc.			Dispens.
Quebracho (see Aspidosperma),			
Quillaya saponaria,	Soap-tree bark,		
Ext. Fld.		Externally	P. D. & Co.
Quinine flower (see Sabbatia),			
Quinia,	Quinine,		
Tinct. Comp.		℥ ss,	Dispens.
Ranunculus bulbosus,	Bulbous crowf't		
Infus,		℥ ss,	Dispens.
Resorcin,		grs.iij,	T. P. & S.
Rhamnus frangula,	Black alder,		Dung.
Rhododendron chrysanthum,	Yellow rosebay	ʒij,	Dispens.
Rhododendron maximum,	Great laurel,		
Ext. Fld.		gtts. v-xv,	P. D. & Co.
Rhus aromatica,	Stink or skunk bush,		
Ext.		grs. j-x,	P. D. & Co.
Ext. Fld.		gtts. x-ʒj,	P. D. & Co.
Rhus toxicodendron,	Poison oak,	gr. ss,	Dispens.
Tinct.		gtts. v-x,	Dispens.
Robinia pseudoacacia,	Locust tree,	grs. xxx,	Dispens.
Rosinweed (see Silphium),			
Rottlera tinctoria,	Kamala,		
Ext. Fld.		ʒij-jv,	P. D. & Co.
Rubus strigosus,	Rasberry le'ves		
Ext. Fld.		gtts. xx-ʒj,	McK. & R.

TECHNICAL NAME.	COMMON NAME.	DOSE.	MANUFACTURERS OR PLACE DESCRIBED.
Rudbeckia lancinata,	Thimbleweed,	ad lib.	Dispens.
Ext. Fld.		ʒj-ij,	McK. & R.
Rumex,	Dock,		
Syr.		ʒj-jv,	Dispens.
Sabal serrulata,	Saw palmetto,		
Ext. Fld.		ʒ ss-ij,	P. D. &. Co.
Sabbatia Elliotii et stellaris,	Quinine flower		
Ext. Fld.		ʒ ss-j,	P. D. & Co.
Sandal wood (see Santalum),			
Sanguinaria,	Bloodroot,		
Tinct. Comp.		gtts. xx-ʒjv,	Dispens.
Sanicula marilandica,	Sanicle,		
Decoc.		℥ij-jv,	Dispens.
Santalum album.	Sandal wood,		
Ext. Fld.		ʒ ss-ij,	P. D. & Co.
Saponaria officinalis,	Bouncing bet,		
Decoc.		℥ij-jv,	Dispens.
Ext.		grs. x-xx,	Dispens.
Saponin,		grs. ij-vj,	Dispens.
Sarracenia flava,	Trumpet plant,		
Ext. Fld.		gtts. v-xv,	P. D. Co.
Sarracenia purpurea,	Pitcher plant,	grs. xx-xxx,	Dispens.
Infus. vel Syr.		℥j-iij,	Dispens.
Satureja hortensis,	Summer savory		
Ext. Fld.			W. S. M. & Co.
Infus.		℥ij-jv,	Dispens.
Saw Palmetto (see Sabal,			
Scrophularia nodosa,	Figwort,		
Decoc.		ad lib.	Dispens.
Ext. Fld.			W. S. M. & Co.
Infus. vel Syr.		℥ij-jv,	Dispens.
Sempervivum tectorum,	Houseleek,	Externally	Dispens.
Senecio gracilis,	Life root,		
Ext. Fld.		gtts, ij-x,	W. S. M. & Co.
Senna,			
Tinct. Comp.		℥ ss-j,	Dispens,
Sepia succus,	Cuttlefish juice		
Serpentaria,	Snake root,		
Tinct. Comp.		ʒj,	Dispens.
Silphium gum'iferum	Rosinweed,		
Ext. Fld.		♏ xv-xx,	McK. & R.
Silphium perfoliatum	Cup plant,	grs. xx,	Dispens.

TECHNICAL NAME.	COMMON NAME.	DOSE.	MANUFACTURERS OR PLACE DESCRIBED.
Simaba cedron,	Cedron seed,		
Ext. Fld.		gtts. j-viij,	P. D. & Co.
Sisymbrium officinale	Water-cress,	grs. v-xxx,	Dispens.
Infus.		℥ ss.	Dispens.
Sheep sorrel (see Acetosella),			
Shepherd purse (see Capasella),			
Solania,			
Acetate.		gr. 1-6-j,	Dispens.
Solanum,	Nightshade,	grs. j-iij,	Dispens.
Decoc. vel Syr.		℥i-ij,	Dispens.
Sophora speciosa,		½ seed,	T. P. & S.
Squaw vine (see Mitchella),			
Staphysagria (see Delphinium),	Stavesacre,		
Stellaria media,	Mouse-ear,	Externally	Dispens.
Sticta pulmonaria,	Free lungwort,		
Lichen pulmonarius,			
Tinct.		gtts. j-xx,	W. S. M. & Co.
Stillingia,	Queen's root,		
Ext.		grs. j-iij,	Dispens.
Strychnia,			
Tinct. Comp.		gtts. x-xxx,	Dispens.
Summer Savory (see Satureja),			
Sunflower(see Hel'us)			
Tephrosia virginiana,	Turkey pea,		
Ext. Fld. Comp		℥ ss-j,	Dispens.
Tatranthera,	California lau'l		
Ext. Fld.		gtts. x-xxx,	P. D. & Co.
Tilia ulmifolia,	Linden,		
Ext. Fld.		ʒj-ij,	McK. & R.
Thuja occidentalis,	Arbor vitæ,		
Ext. Fld.		gtts. xv-ʒj,	P. D. & Co.
Tinct.		ʒj,	Dispens.
Tonca (see Dipterix)			
Toxicodendron (see Rhus),	Couch grass,		
Triticum repens,			
Ext. Fld.		℥ ss-ij,	P. D. & Co.
Twinleaf(see Jef'onia)			
Uvaria triloba,	Papaw Seeds,		
Ext. Fld.		gtts. x-xx,	P. D. & Co.
Tinct.		gtts. x-lx,	Dispens.

EECHNICAL NAME.	COMMON NAME.	DOSE.	MANUFACTURER OR PLACE DESCRIBED.
Urechites suberecta,			T. P. & S.
Urtica divica,	Nettle,	grs. xx-xl,	Dispens.
Decoc.		℥ij-jv,	Dispens.
Ext. Fld.		gtts. xx-xl,	P. D. & Co.
Uvularia perfoliata,	Smaller bel'ort,		Dispens.
Vaselin,		Externally to uterus and vagina	
Verbascum thapsum,	Mullein,		
Ext. Fld.		ʒj-ij,	McK. & R.
Verbena hastata,	Vervain,		
Ext. Fld.		ʒ ss-j,	McK. & R.
Vernonia fasciculata,	Iron weed,		
Decoc.		℥j-ij,	Dispens.
Tinct.		ʒj-ij,	Dispens,
Veronica officinalis	Speedwell,		
Decoc.		ad lib.	Dispens.
Viburnum,	Arrow wood.		
Ext.		grs. j-x,	Dispens.
Tinct. Comp.		gtts. xx-lx,	Dispens.
Viscum album,	Mistletoe leaves	ʒ ss-j.	Dung.
Viscum flavescens.	Phoradendron flavescens,		
Water Fennel (see Oenanthe),			
Xanthium Spinosum,	Spiny burweed		
Ext. Fld.		gtts. x-xx,	P. D. & Co.
Yerba buenna,			
Ext. Fld.		ʒ ss-ij,	P. D. & Co.
Yerba reuma,			
Ext. Fld.		gtts. x-xx,	P. D. & Co.

A REMARKABLE CASE OF AN INTERESTING AUTOPSY.

BY S. DUBOIS, M. D., UNADILLA. MICHIGAN.

Richard Wilcox, a native of England, aged fifty-two years, began over two years ago to complain of shortness of breath and inability for exertion, with enlargement of the left side of the thorax—appearing otherwise tolerably healthy. He came in May, 1881, for treatment. My diagnosis was malignant degeneration of the lung, which was confirmed by consultation with Professor Maclean, of Ann Arbor, and Dr. McKenzie, of Unadilla. The distention and difficulty of breathing gradually increasing—death occurred in October. No treatment was attempted, except to relieve the attendant anasarca and dyspnœa.

At the autopsy, twenty hours after death, the following appearances were noted: Skin healthy; emaciation extreme, with anasarca; no internal effusions, except a slight accumulation of greenish fluid in the pericardium; great protrusion of the ribs, with dilated but not protruded intercostal spaces, with atrophy of bone at the middle of the rib; a large tumor protruded from the epigastrium.

On exposing the contents of the body to view, a solid substance was seen reaching from the clavicle to the umbilicus, of a fatty appearance and with adhesions to every other surface with which it was in contact—the left lung wholly losing its identity in the morbid growth. The right lung and heart were compressed against the ribs of the right side, said lung being studded with small tubercles on its surface. The heart empty and well contracted, and blood flowed from any vessels that were divided in removing the tumor. The spleen, small, light colored, and wrinkled on its surface. The liver nearly normal in appearance. Bile cyst full. The morbid growth appeared to have perforated the diaphragm, thus forming the secondary tumor apparently occupying the membranes, formerly the omentum. On making a section of the portion occupying the thorax, the ruins of what were once the ramifications of the bronchii could be faintly seen. Weight of tumor, sixteen pounds. The mesentery and intestines were blackened by a pigmentary deposit, and the former occupied by bodies of a tubercular appearance, some of them as large as an almond.

Professor C. H. Stowell makes the following report as to the nature of the tumor:

Dear Doctor—I have examined the growth from the thorax and find a large quantity of fat and granular matter and a number of round nucleated cells. The connective tissue framework was, as a rule, very slight. It is my opinion that the growth should be classed with the sarcomata, and that in this case it was undergoing a fatty degeneration.

EDITORIAL BRIEFS.

Physicians desiring reliable vaccine virus should consult the advertisement of H. J. Brown & Co., in this number. We have used the points furnished by this company for the past two years, and know them to be reliable.

We desire to call the attention of our readers to the great value of the Russian translation in this number. Professor Jaccoud is probably the highest authority upon the subject which he discusses, and his statements concerning the curability of consumption certainly deserve consideration.

We have received the first number of the *Detroit Clinic*, a weekly medical journal. It is edited by Drs. H. O. Walker and O. W. Owen, in conjunction with Drs. McGraw, Shurley, Weber and Reynolds. The first number gives evidence that the *Clinic* will prove a worthy production of its eminent editors. This is the first and only weekly medical journal published in the northwest.

There will be a sanitary convention, under the auspices of the State Board of Health, held in Ann Arbor, February 28 and March 1, 1882. The following subjects have been selected for special discussion: (1) Ventilation; (2) causes of insanity; (3) injuries to health from overflowed lands and from milldams and other obstructions in rivers; (4) water supply, and disposal of waste matter; (5) school life and hygiene. All persons interested in sanitary matters are invited to be present and participate in the discussions. It is hoped that the physicians of the State will be well represented at the convention. Further information may be obtained by addressing either of the following members of the sub-commiteeee: W. F. Breaky, M. D., Ann Arbor; Henry B. Baker, M. D., Lansing; V. C. Vaughan, M. D., Ann Arbor, Mich.

MEDICAL NEWS.

The author of the article on Emphysema, in our last number, was Dr. Chanc. E. Koon, instead of Charles E. Koon.

Dr. Neale (*Practitioner*) states that the Chinese and Malays of Batavia use children's urine as a stimulant, very much as we use beef tea. The urine would be nearly as nutritious as the beef tea.

We regret that the failing eye-sight of its editor, Dr. Townsend, has led to the discontinuance of the *Country Practitioner*. We hope that a speedy recovery will enable the doctor to soon resume his editorial work.

The *Archives of Ophthalmology* has been enlarged, and its subscription increased to $5.00, or with the *Archives of Otology* $7.00. These journals are published in both English and German, and are indispensible to all who make any specialty of diseases of the eye and ear.

Mr. Robson (*British Medical Journal*) has used a one per cent. solution of nitro-glycerine in minim doses every four hours with great advantage, both in acute and chronic Bright's disease. It relieves the arterial tension and produces most beneficial results in renal cirrhosis.

Dr. Park (*Practitioner*) has been very successful with the tincture of mistletoe (viscum album) in hypertrophy, asthenia and valvular diseases of the heart. In short, he thinks the drug a valuable substitute for digitalis. The dose of the tincture is one-half drachm every four hours.

Dr. Smith (*Lancet*) treats puerperal convulsions by the hypodermic injection of from one-fourth to one-third of a grain of morphia. One fit may follow before the medicine has time to take effect, but there are no more for hours, when, if they recur, a smaller amount of morphia may be injected. Dr. Smith prefers this to the usual treatment with chloral and bromide.

Mr. Atkinson (*British Medical Journal*) had a hay-fever patient inhale the vapor from a basinful of boiling water to which a teaspoonful of carbolic acid had been added, and wash out his eyes with a five grain to the ounce solution of boracic acid and syringe out his nostrils frequently with a fifteen to twenty grain solution of the same acid. The improvement was very marked.

Dr. Jewell, of Chicago, has resigned the position of managing editor of the *Journal of Nervous and Mental Diseases*, and the position has been filled by Dr. Wm. J. Morton, of New York City. We are exceedingly sorry that failing health has led Dr. Jewell to take this step. The journal has been an honor to American medicine, and we hope that Dr. Morton will prove a worthy successor of the late editor, whom we in the west regard as one of the highest authority in his specialty.

Dr. Hunter (*Practitioner*) recommends Arequipa, Peru, as a health resort for consumptives. The temperature in the houses seldom varies 2° above or below 65° Fahrenheit, winter and summer. The air is dry and aseptic. The doctor acknowledges, however, that there are some slight disadvantages. Earthquakes visit the place once or twice a week or month, and "Revolutions do not affect foreigners excepting in so far that they will naturally remain in their houses during the few hours shooting may be going on." Surely with such attractions Arequipa must be a very desirable resort for invalids.

M. Martineau (*Progrès Médical*) combines one gram of corrosive sublimate with one grain of chemically pure peptone, dissolves the mixture in water, to which a little sodium or ammonium chloride has been added, and injects subcutaneously appropriate doses in secondary syphilis. Martineau has made seven hundred and sixteen such injections without any bad results in the way of abscesses, scars or salivation. He calls the mixture *mercuric peptone.*

Saponified coal-tar is used by some French physicians as a disinfectant and cleansing agent in various inflammatory and ulcerative diseases of the female sexual organs, as leucorrhœa, vaginitis and metritis. Two spoonfuls of the saponified tar are added to warm water and used by injection, or the injection may consist of from one to two litres of water impregnated with coal-tar, or application may be made by means of cotton pledgets.

Dr. Bristowe (*British Medical Journal*) would like the following treatment were he the subject of enteric fever: To have a cool, well ventilated room; to be covered lightly with the bed-clothes; to have a skillful and attentive nurse; to be fed solely with milk, unless vomiting should demand the addition of something to allay the irritation. If diarrhœa should set in, or pain in cæcal region be great, he would want opium. If constipation existed, he would, after the first week, have enemata only employed for its relief. In case of intestinal hemorrhage, he would want ice to suck, or cold drinks, cold compresses, and injections of cold water; and though he is skeptical as to their use, he would want astringents, more especially lead given at short intervals. If perforation should occur, opium should be administered. He would rather not have the cold baths. He would prefer to do without stimulants in the first stage, but would want them later and during convalescence. He would prefer not to be treated at a temperance hospital.

Dr. Granville (*Practitioner*) explains the inability to stand firmly or walk steadily, with eyes closed, in locomotor atoxia, on the evolution theory, and proposes a plan of treatment accordingly. The child learns to walk by the aid of the sense of sight It fixes its gaze firmly upon some object and thus learns to balance its body. After long experience walking is performed automatically, or by the aid of the muscular sense alone. In ataxic persons there is a reversion. Walking again must be aided by the sense of sight. The treatment consists in the education of the muscular sense. "The patient is directed to stand with eyes closed in his bath, after pouring a small can of cold water down the spine, and to persevere in the attempt to do this steadily for, at first, a quarter of an hour, and, as his state improves, for half an hour every morning." For the first three or four weeks there will not be much gain, but after this the improvement is rapid, and after three months not only will this symptom be removed, but there will be a general gain. In some sthenic cases a mustard poultice should be applied along the entire length of the spine until redness is produced, every night, and the douche used in the morning.

THE great value of undiluted, freshly-prepared nitro-hydro-chloric acid in cases of torpid liver is well known, but the acid is an inconvenient, not to say dangerous, agent to place in the hands of patients; while the dilute acid soon becomes worthless. The medicinal value of the strong acid depends upon one or more of the following constituents: (1) An oxide of nitrogen, (2) free chlorine, and (3) an oxide of chlorine. Dr. Cook (*Practitioner*) has devised means by which these agents may be produced at the time of administration and without the inconvenience from handling the strong acid. His prescriptions are as follows:

℞. Sol. sodii nitritis (1 in 4)..................
Sol. pot. chloratis (1 in 4)................. āā ℥ij.
M.
℞. Acidi hydrochlor, dil......................
Aquæ.. āā ℥ij.

M. S. One teaspoonful of each mixture to be added separately to a wineglass of water and taken after meals. By the action of the acid on the salts, oxide of nitrogen, free chlorine and oxide of chlorine are generated. If the oxide of nitrogen alone is desired the following solutions are to be mixed as above:

℞. Sol sodii nitritis (1 in 4)..................
Aquæ.. āā ℥ij
M.
℞. Acidi hydrochlor. dil......................
Aquæ.. āā ℥ij
M.

Dr. Cook uses the first mixture in cases of torpid liver with congestion and catarrh of the bile ducts, and the second mixture in those of loose diarrhœa, dyspepsia and chronic irritability of the stomach.

TRANSLATIONS.

Translations from Russian Journals for THE PHYSICIAN AND SURGEON.
BY RALPH D'ARY, M. D., ROMEO, MICHIGAN.

CURABILITY AND TREATMENT OF PHTHISIS PULMONALIS.

(AN ABSTRACT OF A RECENT WORK (1881) BY PROFESSOR JACCOUD, OF PARIS).

It would be impossible fully to enter here into the subject treated by the author in a work of 484 pages. We shall therefore omit particulars, but represent only his general deductions.

In the author's opinion the formation of tubercle is always the result of malnutrition and a deterioration of the system—

hypotrophy or constitutional *dystrophy*. In their mode of formation and spreading, the tubercles show an analogy with inflammatory processes. Whatever may be one's particular histogenetic theory, it is impossible to deny that the exudation and cell formation is invariably the final expression of a process of irritation—*phymatogenetic* irritation, as the author calls it. This view is, of course, contrary to the epigenetic theory of Lænnec or the theory of heteromorphism, whilst it establishes and elucidates a very important fact, that is the influence of inflammation on the formation of tubercle. "The phlegmasiæ of the breathing apparatus," says the author, "have a twofold effect in phthisis: They either accelerate or favor the increase or development of tubercle already existing, or favor their first appearance in lungs hitherto free from them. The first effect has never been denied, but the second is still in dispute. This is owing to the influence of Lænnec's views; for so long as tubercle is regarded as a neoplastic tissue endowed with a life of its own and containing within itself all the requisite conditions of its metamorphoses, so long will it be impossible to recognize any causative relation between its appearance and the existence, say of pneumonia, even if individual predisposition of the patient is taken into consideration. This difficulty, however, does not exist any longer, since we are able to understand that a pneumonic exudation in a diathetic subject. in consequence of his diathesis, undergoes certain characteristic changes different from its normal metamorphoses. We may arrest and even prevent the formation of tubercle in diathetic subjects, by preventing, so far as possible, the occurrence of inflammatory affections of their bronchopulmonic apparatus."

The only reliable starting point for prophylaxis and treatment is found in the keeping in view the idea of "malnutrition" that is, deficient nutrition, and in an appreciation of the deliterious influence of phlegmasiæ.

(1) Caseous degeneration always depends on a debilitation of the system.

(2) The genesis of tubercle also depends directly on debility and exhaustion.

(3) Accidental irritations of the trachea, bronchi and lungs, exert an influence injurious in three different ways: In subjects who as yet are healthy, but predisposed to consumption, they favor the appearance of tubercle, or of *phthisiogenetic* changes in the lungs. In subjects already suffering from phthisis they occasion the appearance of new foci of the disease. Finally, they aggravate existing lesions and hasten their course.

(4) The fever is a process of exhaustion, or wasting.

These four points embrace all the indications for treatment.

Lately the microscope has confirmed the truth of the old "unitarian" view of pulmonary phthisis. The remarkable labors of Grancher (1872–77), Charcot, and Thaon have proven that the pathological products of the so-called pneumonia caseosa, besides various inflammatory products common to *all* forms of phthisis, exhibit the same elements, the same arrangement, and the same evolution as found in typical tubercular granulation. All the difference lies in the size—the small or miliary tubercle and the large or giant tubercle. The dualism of phthisis finds therefore no support in anatomo-pathological grounds. Whether the lesions are of small size, disseminated in isolated nodules; or large confluent homogeneous masses, under the microscope they all appear *tubercular*, and therefore *every* case of phthisis must essentially be considered as such. This new histological view enables us to speak more confidently of the chances of curing consumption; for as the caseous form of phthisis is curable (which form until lately had wrongly been been considered as non-tubercular) then also must tuberculosis, as such, be amenable to a cure. But the anatomical unity of phthisis does not invalidate its clinical dualism. By its etiology, especially as to heredity, and by its symptoms, course, and prognosis pneumonic or caseous phthisis is sharply distinguished from the ordinary tubercular or granular phthisis.

With regard to probability of cure, so far as it may be prognosed by etiological and anatomical data, the author divides all cases of phthisis into the following groups.

(1) *Hereditary Phthisis*, which of course ipso facto, must be considered as a form presenting the least chances of recovery, after it has once manifested itself. But, on the other hand, the author's experience shows that it is most amenable to prophylactic treatment.

(2) *Congenital Phthisis*, which must not be confounded with the hereditary form. It is found in children whose parents are not tuberculous, but cachectic from scrofula, syphilis, alcoholism, or other excesses. It may also be a consequence of marriage between near relatives. The children are born with a phymatogeneous diathesis, like those of the first group, but this diathesis cannot be hereditary, since the parents did not possess it. Frequently this fact of congenitality is overlooked, and the disease classed as *acquired*, whereby this latter class is unduly increased in proportion. Congenital phthisis is somewhat more amenable to treatment than the hereditary. It does not so frequently take the granular form, and is most frequently the consequence of scrofula, presenting all the good and bad data for prognosis of this disease.

(3) The group of *acquired phthisis* the author divides into two classes. The first consisting of cases in which tuberculisation of the lungs can be accounted for only on the ground of general debility—the hypotrophy or dystrophy which forms the basis of all varieties of phthisis. He calls this *primary acquired phthisis*. The second class includes those cases in

which the pulmonary pathological processes coincide with some constitutional disease, either previously or actually existing, and to whose influence the development of phthisis may be ascribed. These cases he calls *secondary acquired phthisis.*

The primary acquired or idiopathic phthisis, whatever its anatomical form, whether granular or pneumonic, presents better chances of recovery, ceteris paribus, than any other form of the disease. In order to prognosticate still closer, the primary forms may again be divided into the *early* and *late* forms, the former occurring between the ages of fifteen and thirty-five, the latter between thirty-five and forty. The prognosis of the latter, when the disease is really *primary*, according to the above definition of the term, is the more favorable.

(4) *Scrofulous Phthisis* is not so curable as the primary acquired form, but more so than the hereditary and congenital, if the pathological changes are limited to the lungs only. Its course is very slow, even when it takes the form of caseous pneumonia. But when the anatomo-pathological changes are not limited to the lungs, the scrofulous form looses all its more favorable chances and may assume the most unfavorable course, the affections of the glands adding all the dangers incident to them, while the caseous foci constantly threaten with an outbreak of acute tuberculosis, in consequence of the absorption of pathological products.

(5) *Diabetic Phthisis* appears in the latter stage of diabetes, and soon ends in death.

(6) *Syphilitic Phthisis* proper does not exist, if we admit that *all* the varieties of phthisis depend on the formation of tubercles. Syphilis may indeed cause serious pulmonary lesions, but these lesions contrast strongly with genuine tuberculosis, and the disease anatomically cannot be called phthisis. It is syphilis of the lungs, not tuberculosis of the lungs. On the other hand there can be no doubt that syphilis, like other greatly debilitating diseases, may occasion hypotrophy, which we know to favor tuberculosis. (The existence of scrofulous phthisis might be denied on analagous grounds, but our author does not do so.)

(7) *Granular Chronic Phthisis*, or common consumption, notwithstanding its slow course, is much less curable than the pneumonic variety. Congenital and hereditary phthisis most frequently assume this form. Its lesions are usually more general, the tubercles appearing in both lungs, the larynx, the bowels and sometimes the cerebrum. This of course is a very unfavorable condition, and it is the only reason why the prognosis in granular phthisis is worse than in the pneumonic variety. But in those exceptional cases, in which the disease presents the more favorable conditions of the pneumonic form (one lung only attacked, localisation on a small area), its prognosis is about the same as in pneumonia caseosa, nay perhaps

even more favorable, because of the absence of the urgently dangerous acute stage of pneumonic tubercolosis.

(8) *Pneumonic Phthisis*, once it has entered upon its chronic stage, is, ceteris paribus, the most favorable in prognosis, and to this class belong the greater number of absolute and approximate recoveries observed by the author.

TREATMENT OF COMMON OR GRANULAR PHTHISIS.

Arsenic, according to the observations of the author is the best medical remedy for wasting or exhaustion. It also quiets the nervous irritation, and lessens the irritability of the heart and vascular system. It is best given in conjunction with cod liver oil or glycerine. In the early stages the result is excellent. In from four to six weeks a general improvement of habitus takes place, with increase of strength and weight. When the treatment lasts several months, and especially where counterirritants and other local remedies are used, it is often noticed that the duration of the pulmonary attacks is lessened. The author always gives the arsenic in form of pills, each containing 0.001 (grains one sixtieth) of arsenious acid. The patient is directed to take two pills a day, at breakfast and dinner, and every week the daily dose is increased by two pills, until the maximum dose of six to eight or ten pills per day is reached. These maximum doses are continued for an indefinite time. When symptoms of poisoning begin to show themselves the doses are diminished. Among these symptoms the author noticed a peculiar weariness after walking and a weakness of the lower limbs, which indeed is sometimes the *only* symptom.

Every tuberculous focus is surrounded with a hyperæmic and inflammatory zone, which magnifies the visible field of specific lesion. This zone, as yet is not tuberculous, but, if left to itself, it soon becomes so. This phymatogenetic zone is a premonitory symptom of further tuberculisation. Whilst it still retains a purely congestive and premonitory character, it may be benefitted by local treatment. The same may be said of the catarrh of the pulmonary apices, which does not always assume the tuberculous character from the outset, but frequently remains for some time a simple phymatogenetic. curable, catarrh. The early treatment of the phymatogenetic zones and catarrh of the apices is therefore very important, and should consist of derivative measures. The variety of means is great, fly blisters, moxæ, cauterization etc. (The "irritating plaster" emplastrum picis compositum is perhaps best of all. D'A.)

Every symptom of laryngeal irritation calls for immediate treatment with inhalations, and local applications made with the help of the laryngoscope, but especially with derivatives, such as painting the laryngo-tracheal region with croton oil, or tincture of iodine.

In order to lessen the secretion of mucus in polmono-bronchial catarrh, which is very exhausting to the patient, creasote should preferably be employed. In the author's opinion it also influences favorably the tubercles themselves, favoring their sclerification. He gives it in cod liver oil or glycerine and finds that in this way it is least irritating to the primæ viæ. About 0.20 (grains four) of creasote and one drop of essence of peppermint is added to the daily dose of the oil. If the patient is taking glycerine the best formula for the daily dose is as follows:

Glycerine	40	0 (℥j+ʒiij)
Cognac or rum	10	0 (ʒiij)
Creasote	0	20—0.40 (gr iv–viij)
Essence peppermint gtts	i.	M.

If the patient have phosphaturia he should be given the phosphates in milk. It has been ascertained by experiment, that if 80.0 grams (about two and one-half ounces) of powdered bone ash be added to the daily food of a cow, each litre of her milk will contain about 2.0–3.0 grams (one-half drachm—two scruples) of tribasic phosphate (Daremberg).

The fever of phthisical patients, from its origin may be divided into four kinds:

(1) The fever of granulation, or tuberculization, accompanies the formation of primary or secondary granulations (tubercle) in the lungs. In the vast majority of cases it is quotidian intermittent, appearing in the evening, with more or less distinctness of the three stages. Defervescence takes place in the night, long before morning. In rare cases the attack occurs in the morning, and then the minimum of temperature occurs in the evening. In acute miliary tuberculosis the inverse type of fever is often observed. The fever may also be remittent, that is, sub-continuous with very considerable morning remission, but we see this only in secondary formation of granulations, that is, in the later stages of the disease.

(2) The inflammatory fever accompanies the formation of pneumonic and broncho-pneumonic foci, whether simple or tuberculous. It may appear at any stage of the disease. It is remittent with evening maximum, and continues while the local inflammatory process continues.

(3) The ulcerative fever accompanies the process of ulceration resulting in the formation of cavities. Its type is almost the same as the preceding, but the morning remissions are more decided. The differential diagnosis depends entirely on stethoscopic data.

(4) Resorptive fever is the most common and most dangerous, on account of its duration when not checked. It is caused by the resorption of the products of necrobiosis, the bronchial secretions, and the contents of the cavities. It may be intermittent with evening attacks, or of the duplex intermittent type, the first daily attack occurring about eleven or twelve

o'clock in the day. More frequently it is remittent with morning remissions. In either variety the evening attack may be preceded by rigors, and the paroxysm generally passes off with abundant perspiration. (The fever designated by the author as resorptive is that which is commonly called hectic, but as this latter term is rather too vague, the author's designation seems to us preferable.)

The author treats these symptomatic fevers chiefly with quinine, and in some cases with salicylic acid. He gives the bromo-hydrate of quinine in maximum doses, about seven hours before the paroxysm. The first day patient takes four powders, at intervals of ten minutes, each powder containing 0.50 gram (eight grains) of bromohydrate of quinia, or altogether 2.0 grams (one-half drachm) in course of half an hour. On the second day he takes three powders, that is, 1.50 grams (one scruple and four grains). On the third day he takes two powders. Then he receives no quinine for about three days, after which the same course is repeated, if the fever still continues. Hypodermic injections are made for those patients who cannot tolerate quinine per orem. One gram (fifteen grains) of chemically pure bromohydrate of quinine may be dissolved, without adding any acid in five grams of distilled water, and about twenty minims of the solution is injected, producing approximately the same effect as double the quantity given per orem. On the first day three such injections are made, on the second, two, and on the third, one. Then three days without injection, etc., as above.

In the tuberculisation fever a good therapeutic effect is generally obtained from quinia, but the fevers of ulceration and resorption generally do not yield to quinia, and in these cases the author uses salicylic acid, which is both antiseptic and antipyretic. The first day he gives four powders, each containing about 0.50 grams of salicylic acid, at intervals of fifteen minutes, so that the fourth is taken about four hours before the paroxysm. The next day he gives three powders, etc., just as he administers the quinia. After each powder the patient is made to drink a large tumblerful of water with two or three drachms of cognac, in order to lessen the irritating effect of the drug on the primæ viæ and to increase diuresis, which is much lessened by salicylic acid. If the patients do not tolerate salicylic acid, they may be given salicylate of soda. But as the antiseptic effect of the drug is not so great when it is administered per orem, as when given hypodermically, the latter method is preferable, using salicylate of soda. Equal parts of water and the salicylate are taken, and about twenty-two minims are injected, the effect being about the same as from one drachm of the salt taken per orem.

In the inflammatory fever, when the pulmonary tubercular congestion is great, when the sputa are tinged with blood, and the medium and smaller bronchials are affected, and consequently there is a constant dyspnœa, the author temporarily suspends the arsenic, cod liver oil, glycerine, creasote etc. Not because he thinks them hurtful under the circumstances, but in order to make room for other remedies, which are now more urgently called for by the pulmonary congestion. He gives Kermes mineral, 0.15–0.30 (three to six grains) pro die, in some syrup; or tartar emetic 0.05–0.10 (one to two grains) pro die in 120.0–130.0 (four fluid ounces) of syrup. In favorable cases this treatment removes the local affection and thereby also the fever, so that there is no need to have recourse to quinia.

If cavities exist it is necessary to disinfect them by inhalation of antiseptics. The author gives preference to a one to two per cent solution of carbolic acid. He had tried inhalations of benzoate of soda, according to Rokitansky and Kroczak's method, but, like many others he obtained perfectly negative results. Hemoptysis, intestinal catarrh, and other affections of the consumptive the author treats in the usual manner.

As to climatic treatment, the author first proposes the question: Is there any special climate, which of itself can produce a therapeutic effect on tuberculosis. He answers this question decidedly in the negative. "There is no climate which has a specific influence on the disease." But he admits that different climates have a different influence, and that some climates offer relative or even perfect immunity against phthisis. Such climates are found in certain localities of Switzerland, Silesia, Iceland, the plains of the central region of the Andes, and the elevated plains of Mexico. Muller's statistics show that in those localities of Switzerland which lie above one thousand three hundred metres in altitude, there is only one case of pulmonary phthisis to be found in one thousand inhabitants—practically an absolute immunity. The author categorically asserts that of the various elements which constitute a climate, altitude is the most important in guaranteeing immunity from tuberculosis. That the lowering of the temperature is only of secondary importance, is evident from the fact that tuberculosis is common in lowlands having a low temperature, such as some parts of Russia, Sweden, and Norway. The peculiarities of climate which distinguish, in Europe at least, those elevated regions which present immunity from tuberculosis are, cold winters, cool summers; winds which in summer arise at a certain hour and blow in a constant direction; almost absolute absence of wind in winter; a slight degree of humidity, and great purity of the air. But these are the characteristics of the ideal stimulating and bracing climate, and the author contends that it is only by virtue of their tonic effects, that these climates prevent the outbreak, or assist the cure of tuberculosis, but that they have no specific therapeutic influence on it whatever. The rarity of the air, however, necessitates an increase of the respiratory function, which tends to prevent hyperæmia and hemostasis in the lungs. That this is an important factor is proved by the circumstance that immunity from consumption does not exist in certain northern regions of little altitude, and consequently more concentrated atmosphere, although their climates, in all other respects, seem to be exactly like those described. Therefore, in prescribing climatic treatment, the following general rule should be had in view. Unless specially contraindicated, mountainous climates should generally be chosen for the prophylactic and early treatment of (common) tubercular phthisis. Non-elevated southern climates with even temperatures, are only useful in so far as they lessen the danger from taking cold, from attacks of catarrh, bronchitis, pneumonia, etc., and thus permit more constant outdoor exercise than colder and changeable climates. —Abbreviated from *Med. Obozr.*

Translations from French Journals for THE PHYSICIAN AND SURGEON.
BY R. A. PACKWOOD, LES ILES, BERMUDAS, WEST INDIES.

LESIONS OF THE LARYNX IN THE TUBERCULOUS.

BY DR. JOAL.

We give the name laryngeal phthisis to an affection, the anatomical characters and symtomatology of which are intimately related to the existence and evolution of tuberculous products in the larynx. We do not confound this disease with syphilis, scrofulosis, and laryngeal cancer, as has been done by Trosseau and Belloc. We separate it also from laryngeal catarrh, observed in consumptives, and consider tuberculosis and laryngeal phthisis as synonymous. Just as in the lung, pleura and peritoneum the tuberculous process may at the beginning take the granular or infiltrated form. But whether the lesions have a nodular or diffuse origin, the result is ulcerative with destruction of the parts attacked. Ulceration is a term which borders on laryngeal tuberculosis. It is necessary to note that whilst in other organs, gray granulation or miliary tubercle is most frequently present, here on the contrary we meet, more particularly, the infiltrated form and caseous lesions; and those authors who hold that laryngeal tuberculosis is of rare occurrence, have certainly only considered the granular products so infrequently observed.

It may be interesting to know in what proportion of cases, phthisis is found, in which the larynx is attacked by the tuberculous process. Upon one thousand two hundred and twenty-six subjects presenting, at the autopsy, pulmonic lesions, Heinze found three hundred and seventy-six with laryngeal ulceration, or thirty in one hundred. Willigk examined, post mortem, one thousand three hundred and sixteen consumptives, and noted two hundred and thirty-seven cases with ulceration of the larynx, or fourteen in one hundred. As there is a difference between the results furnished by the preceding statistics, we have taken the average obtained by the two observers, and think that we approach the exact number, by saying that about one-fifth of the consumptives have laryngeal tuberculosis.

Phthisis of the larynx may be primary or secondary, that is to say, the appearance of tuberculous products in the vocal organs may precede or follow the invasion of the broncho-pulmonary phenomena. Without speaking of miliary pharyngo-laryngeal tuberculosis, of which, however, two fine examples have been observed, we will say that the primary form is very rare, and one should not pronounce it such, until after the minutest examination of the apices of the lung. For auscultation presents the greatest difficulties and affords the most uncertain results, when by the presence of ulceration, œdema or simple swelling of the laryngeal mucous membrane, the calibre of the air tube is narrowed, producing a whizzing, sometimes so loud that it is impossible to recognize the occasional modifications in intensity, timbre and rhythm of the respiratory murmur, neither can we perceive the blowing rales, friction and adventitious rales—nothing is easier under such circumstances than to overlook pulmonary lesions which only the stethoscopic signs can reveal.

Let us add, that the propagation of this whizzing in the bronchial tubes may be a cause of error in the differential diagnosis between laryngeal phthisis and cancer or syphilis—we have made errors in two cases of this kind. At the first we mistook tuberculous lesions for cancer; laryngoscopic signs offered nothing characteristic; the general state of the patients giving no indications of pulmonic lesions, the laryngeal whizzing prevented us ascertaining the alterations at the apices of the lungs.

Secondary laryngeal phthisis exhibits itself at different periods of pulmonary tuberculosis accentuating its course, accelerating its development and hastening its termination—the two affections have a marked influence one upon the other.

The laryngeal legions progressing and becoming more grave, the lung develops reciprocally.

We have said that the disease may present two forms, the slow and the rapid—the latter is the most common. We are are also inclined to believe that in the first case it is often influenced by a simple chronic laryngitis; among many patients it is difficult to differentiate this latter from laryngeal phthisis, at the beginning—it is the ulterior development that proves or disproves laryngeal tuberculosis.

In short, we think that in the majority of cases of laryngeal phthisis the result is ulcerative; now, authors are almost unanimous in acknowledging that the progress of the disease becomes rapid, when the process has reached glandular ulceration; from this period we must conclude that the rapid form is the most common. This is not saying that we deny, in an absolute manner, the curability of laryngeal phthisis, and that we regard the ulcerative period as inevitable and fatal, we know of some cases of recovery, either before or after the ulcerous formation, but do not hesitate in saying that such cases are very rare indeed.

Isambert, who has given an excellent description of laryngeal phthisis, admits three periods in the course of the disease: (1). The catarrhal and epithelial; (2). Ulcerative and œdematous; (3). Suppurative and necrosive. We consider it rational to unite the lesions and symptoms of the disease into three groups; but the names of the different periods do not seem the most appropriate. From this, one might think that ulceration and œdema are found only in the second stage; while suppuration pertains exclusively to the third; we propose a division which has as a basis the ideas of pathological anatomy, and by indicating which tissues are invaded by the ulcerous process, correspond very directly, in symptomatology, to the classification generally adopted by authors. It is: (1) A superficial or epithelial period.; (2) An intermediate or dermic period; (3) A deep or sub-mucous period.

That is to say that in the first stage we place the vascular troubles, the desquaMations which constitute the catarrhal period of Isambert; second stage comprehends the phenomena due to ulcerative action which destroys the mucous membrane; lastly in the third phase, we arrange those lesions which attack the tissues subjacent to the mucous membrane, as muscles, ligaments, cartilages and articulations. Having disposed of these, let us briefly indicate what signs are found on laryngoscopic examination, in the three periods.

It cannot be expected that the laryngoscope should in all cases reveal, at the beginning, the symptoms characteristic of laryn geal phthisis. As a general thing, only an inflammatory and hypertrophied condition of the mucous, quite similar to that of laryngeal catarrh is observed, and we have already said that it is only by the later development of phenomena that the diagnosis of laryngeal tuberculosis can be established. Some subjects, on the contrary, present at the commencement, objective signs to which authors agree to attach great value; they are *probable*, but not *pathognomic* signs.

Of the symptoms, the one to which we attach most importance is the *discoloration* of the mucous membrane of the palate, pharynx and larynx. The membrane of the vocal organs is *blanched* and exsanguinated; this palor, due to local anæmia, is sometimes so pronnuoced, that it is difficult to distinguish the inferior vocal cords, and ventricle, of which the red color in the normal condition shows very clearly upon the pearly white thyro-arytenoid ligaments. This discoloration of the larynx, especially, should arrest attention, when it does not coincide with a general œdemia of the individual, having a pale color of the remaining tissues; but in young chlorotic girls we must not allow ourselves to be misled by the exsanguinated appearance of mucous, and from the existence of this symptom, too hastily conclude, that the case is one of laryngeal phthisis.

At the beginning of the affection, some useful ideas, in a diagnostic point of view, may be drawn from the seat and form which the redness affects upon the inflamed parts. The coloration has most frequently appeared to us to commence at the arytenoidean region and posterior third of the inferior vocal cords, and may then spread to the ventricular bands, to the epiglottis and aryteno-epiglottic folds, but the special character which this redness presents is that it is not generalized, but is in patches, occupying little islets of mucous, without spreading itself uniformly over the larynx. When the inferior vocal cords are attacked fine arborizations will be noticed, parallel striæ at the free border of the cords and stellate spots. The coloration is rosy in the arytenoidean region, upon the thyroarytenoidean ligaments the redness may take a hemorrhagic tint, described by Fauvel, and observed by ourselves several times.

At the termination of the first period swelling may appear at the arytenoides, there may be some thickening, a dull greyish aspect of the inferior vocal cords and the epiglottis may be tumefied at the edges; little ulcerations and epithelial desquamations are occasionally observed, but offer nothing characteristic. There is not even the velvety aspect, in them, of which authors have wished to make a sign pathognomic of laryngeal phthisis—for this is seen also in arthritic and herpetic laryngitis. The velvety condition is formed by little interarytenoidean villosities which resemble the appearance of utrecht velvet—we believe these are due simply to an abnormal and exaggerated proliferation of epithelium. M. Cadier, in his "Manual of Laryngology," inquires into the nature of these little sprouts or vegetations, and asks whether they are papillæ of the skin which become hypertrophied, or whether they are due to the presence of tuberculous granulations. Our excellent *confrere* thinks that these three causes may contribute to the formation of the velvety aspect, according the greater importance, in laryngeal phthisis, to the action of the two latter.

M. Cadier, finds in this the explanation of a fact which he has observed—*that* the *granule* is *larger* in tuberculosis than in arthritic laryngitis—we have not yet verified the assertion. Be it as it may, the velvety aspect, the discoloration of the laryngeal mucous, the red patches limited to the arytenoidean region and posterior part of the vocal cords are the most serious symptoms and the most proper to establish the diagnosis of laryngeal phthisis at the beginning.

In the second period of the disease changes are made upon the mucous proper. The tuberculous process completes its destructive work—in the derma, and its contained glandular elements.

On laryngoscopic examination we notice extensive ulceration and of variable form. What is their most common seat? This the authors do not understand.

M. Krishaber and others, place in the first line the arytenoideann region, then epiglottis, the ventricular bands and lastly the inferior vocal cords. Others affirm that the parts most frequently ulcerated, in order, are the vocal folds, (rubans vocanx) epiglottis, arytenoides, the thyro-arytenoidean folds,—for this one, the seats by predilection are the inferior vocal cords; the other rarely meets any ulceration at this point. In the presence of such a divergence of opinions, we have studied the question, and the result of our personal observation is, that in the majority of cases the ulcerative work begins in the arytenoidean region and inferior vocal cords; these parts are, undoubtedly, much the oftenest attacked; the epiglottis and ventricular bands are altered only in a small proportion of cases. At the posterior commissure, the ulcerations, generally small and confluent, may unite into one only, and the surface may become quite extensive; the base is greyish and granular, its edges are irregular and form a slight relief upon the rest of the mucous. From its borders sometimes spring vegetations of variable size; these may be pediculated polypi of tuberculous origin;—in certain cases they resemble the cock's comb, and are then called *cauliflower*. The inferior vocal cords present ulcerations of an entirely different form; at one time may be seen simply a scratch, when the alterations are made only upon the superficial layers of the mucous; at another the vocal folds are entirely destroyed in one or several points; the free borders of the ligaments may be notched, jagged, and present a scratched appearance.

At this period of laryagenl phthisis, the vocal cords have almost always lost their pearly white appearance, taking a dull greyish color, and are no longer slender and flattened, as normally; but become thickened and cylindrical—a regular hypertrophy. Their movements are embarrassed, they cannot vibrate nor bend—the condition is one of local paralysis.

At the epiglottis, the ulcerations occupy, principally, the inferior part of the laryngeal surface; they are most often large and extensive, but not numerous; we have rarely observed that cheesy or sebaceous condition of the free edges of the operculum which has been noticed by Isambert, and which according to this author, might appear like small erosions. It is important to differentiate tuberculous ulceration in the epiglottic region from those of syphlitic origin. The latter ordinarily begin on the superior suriace of the epiglottis and are of an irregular serpentine form,—they are situated upon an indruated base, the borders of which are well defined—perpendicular—and surrounded by a carmine border; these characters very distinct in some subjects, are scarcely perceptible in others. In this case the diagnosis will present great difficulties, and it will be impossible to say whether the disease is tuberculous or syphilitic—moreover both affections may be met in the same individual.

In the second stage of laryngeal phthisis, suppurative phenomena are observed, which are always in relation to the number of ulcerations; in less severe cases pus is seen only at the ulcerative surfaces; at other times the whole mucous is bathed in an unhealthy liquid which saturates and softens the tissues, and thus becomes a source of aggravation in the course of the disease.

It is also in this stage of the disease, that the first signs of that condition of the larynx, described under the name "Oedema of the glottis" appear, and which is constituted by a serous or purulent infiltration into the cellular tissue, in the epiglottic and arytenoidean regions, and towards the aryteno, epiglottic and thyro-arytenoid folds; though it may be by a tuberculous infiltration and a sclerotic production. The œdematous phenomena are generally very pronounced in the last period of laryngeal phthisis. Swelling and tumefaction invade, at the same time, those portions of the larynx which are lined by a loose cellular tissue, or the œdema remains limited to one region only; the inferior vocal cords, where the mucous is very adherent to the subjacent fibrous tissue, ordinarily escapes this complication. Examining a tubercular attack of œdema glottis, by the laryngoscope, the first thing perceived is a complete deformation of the epiglottis, which is much increased in size, and may appear as a large cushion, rounded and projecting.

Both borders of the operculum being much tumefied may even come in contact; this is the condition which Isambert has described under the name phimosis or para-phimosis. The aryteno, epiglottic folds, and arytenoides are also the seat of swelling which tends to narrow the superior opening of the larynx; having produced these alterations, it is difficult to see the ventricular bands, with the mirror—they being hypertrophied and puffed, covering the inferior vocal cords. The mucous membrane presents a color, at times pale and exsanguinated, at others greyish or slate colored, at others red or purple; the latter condition is observed, when the inner membrane of the larynx is at the same time under an accelerated inflammatory state.

The consistence of the tissues is sometimes soft and at others hard. We also reject the denominati on of sclerosis, which M.M. Doleris and Gougueheim have wished to substitute for that of œdema. If it is true, that in certain subjects the tumefied parts are indurated, resisting pressure, present a dense and lardaceous state, that they have, in a word, been transformed by a veritable interstitial sclerosis, it is not a fact that these alterations may be observed in all cases of laryngeal phthisis; one should, however, allow a wide space to soft œdemas, to which we may evidently apply the name scleremia. We believe in the relative frequency of true œdema, in pharyngeal tuberculosis, produced by a aserous or purulent infiltration; we base this opinion on a large number of previous observations, particularly upon a series of seventeen patients whom we examined during the last three months, at the clinic of Dr. Fauvel, and in whom the soft consistence of the tissues was manifest.

With Dr. Moure, we will continue to employ the word œdema, unless a more appropriate expression is proposed.

The third period of laryngeal phthisis comprehends those lesions which attack the deep structures, muscles, ligaments, cartilages and articulations; these alterations may be the result of the propagation of the ulcerative action in the subjacent tissues, but the destruction may also begin in the submucous layers. There is produced perichondritis, chondritis, and true white tumors in the small articulations of the larynx; abscesses are formed and show as pyramidal swellings under the microscope—an example of such a case was seen recently. At this time the tongue becomes a source of purulent matter; there are in every part of the cavity ulcerations, fungosities and floating shreds. The mucous is covered with a thick layer of infectious pus; the calibre of the trachea is considerably narrowed and may lead directly to death.

Let us now glance at the rational symptoms of laryngeal phthisis—examine the modifications of voice, characters of the cough and expectoration and speak a word of the pain dyspnœa and dysphasia. At the commencement of the disease, the alterations of the voice are sensibly the same as those observed in chronic laryngitis; there is hoarseness, the sounds become more hollow and deep, the voice failing after talking or singing much, becomes markedly changed—there is also dysphony. Following the ulcerous lesions, with partial destruction of the organ, or simply with swelling and tumefaction of the mucous, covering parts, the integrity of which is essential to phonation, aphonia may supervene, which in certain cases is produced by paralysis of the recurrent nerves; finally in the latter stages of laryngeal tuberculosis, the voice is whispering and almost extinct.

It is very difficult to determine exactly the part which the laryngeal phenomena take in the production of cough; the ordinary concomitant pulmonary lesions may be regarded as the preponderating cause of this symptom. We believe in the direct influence of laryngeal lesions in the development and character of the cough. Congestion and inflammation excited in the laryngeal mucous will render it more frequent; cough is observed most often in those who present ulcerations or small vegetations in the arytenoidean region; in fact from lesions of the larynx, the cough becomes harsh and concealed; finally, in consequence of an insufficiency of the inferior vocal cords, in the last stage of the disease, it may become eructating. But it should not be forgotten, that cases have been cited where the patients might not cough, though they may present profound alterations of the larynx. We saw a fine example of this fact in an unfortunate equisena at Mont-Dore in 1878. In this man there was great loss of epiglottic substance, a loose shred at the level of the right ventricular band, and numerous ulcerations upon the left inferior vocal cord. The pulmonary lesion was in a stationary condition, a softened focus at the inferior angle of the right scapula—no cavity. This patient only had spells of coughing on awakening in the morning; he was by no means incommoded by this, which in certain subjects takes a painful and fatiguing form. It is true we never saw an individual presenting so slightly pronounced special sensibility of the laryngeal mucous—laryngoscopic examination and feeling the intra laryngeal parts were made with impunity, giving rise to but slight reflex movement or spasm.

There is nothing to notice, particularly, in reference to the expectoration, which at the beginning of the disease is wanting, or composed of mucous. Later the sputa becomes purulent and varied in quantity, according to the extension and gravity of the laryngeal lesions: but it is extremely difficult to differentiate this secretion from that furnished by the bronchi and lungs.

Is the blood contained in the sputa of those suffering from laryngeal phthisis always of pulmonary origin, or is it the result of alterations seated in the vocal organs? According to most authors, true laryngeal hæmorrhage is extremely rare outside of cancer; in the tuberculous it consists of light sanguineous striæ mingled with the sputa—not in great quantity. "It is always from the lungs," says Bordenave, "that the blood comes, when in any quantity ejected by cough or expectoration."

Fauvel, cited in the excellent thesis of Moure, gives a more precise opinion on this subject. "Never," according to this eminent practitioner, "is there any laryngorrhagia in the tuberculous. The blood seen in the larynx does not come from the laryngeal mucous, but is arrested there in its passage." This does not satisfy us—it would be going too far to deny in an absolute manner, the occurrence of laryngorrhagia of a tuberculous nature, and we wish to prove it by three cases that have been observed.

[TO BE CONTINUED.]

Translations from Dutch Journals for THE PHYSICIAN AND SURGEON.

BY J. VANDERLAAN, M. D., MUSKEGON, MICHIGAN.

TWO CASES OF HYPOSPADIA IN ONE FAMILY.

BY DR. L. VANDERHOEVEN.

A few months ago, a certain R. applied to the Hospital at the Hague for treatment of Eczema squamosum and genu valgum dextrum. His sister, who accompanied him, asked for a private interview, in which she stated that her brother, to use her own words, was "neither male nor female," and that she herself shared the same defect. They were the only remaining of ten children, eight of whom had died at an early period, and who were without any malformation.

By physical examination, two labia majora are seen, which unite above a penis, two centimeters long, with a prepuce and corpora cavernosa. The glans is entirely bare and is not pierced by the urethra. In either of the labia is a testicle with its epididymis, from which the funiculus spermaticus ascends to the inguinal canal. In this canal the vas deferens and plexus pampiniformis are easily felt.

The testicles are of the size of a pigeon egg, the right one rather firmer and larger than the left. Quite firm pressure upon these glands excites no pain. There is not a trace of labia minora.

Half a centimeter below the glans penis, the orifice of the urethra appears, through which an ordinary female catheter passes with ease. On either side of the urethral opening another orifice is seen, allowing a filiform bougie to pass for about two micro-milimeters. The converging labia unite at a point about two or three centimeters below the meatus urinarius, and thus enclose a shallow fossa somewhat resembling the fossa navicularis in the female. The mons veneris is free from hair, and the external genitals apparently resemble the vulva of a girl twelve or fourteen years of age.

By rectal examination—while the catheter remains in situ—the urethra is found to measure about five centimeters in length. Of Cowpers glands, prostrate, vesiculæ seminales, uterus, and ovaries, not a trace can be found. The perineum is long.

Patient has a soft female voice, is small for his age and delicately built. There is no beard; the hair of the scalp is short. Finally, he shows two well developed mammæ, the glands of which are well defined. No milk can be squeezed from the gland. Patient states that he never lost any blood from the genitals, and that he never experienced anything like an erection or ejaculatio spermatis. His morning urine, which was examined every morning for four weeks, never contained any spermatazoa. Sexually, he seems perfectly neutral. The whole individual resembles more the female than the male type.

By physical examination of his sister (more correctly his brother) aged twenty-eight, it appears that the latter, as far as the genitals are concerned, exactly corresponds with the former.

All the organs, however, are better developed, and the mons veneris is covered with hair. She never menstruated or lost any sperma. Her breasts are larger and the glands better developed than her brother's, but there is no secretion of milk. She has no beard and wears long hair. There is not the slightest desire for coitus, either active or passive. In contrast with her brother, she is well developed and has a strong voice. She appears to be a man in female dress.

By interchanging their assumed sex, both of them, no doubt, would better correspond to the proper sex. The question involuntarily arises why the accoucheur ascribed to them different sex. The patient states that the malformation was not overlooked by the obstetrician at birth.

Since the glands determine the sex, both should be classed as males.

A similar case is described by Dr. Magitot, in the July number (1881) of the *Revue de Chirurgie*. This latter case of Magitot belongs, according to Geoffroy Saint Hilaire, to the imperfect hermaphroditismus bisexualis; but Magitot considers it, from an embryological point of view, a case of scrotal hypospadia, in which the scrotum is bifid, and the infundibulum representing the membranous portion of the urethra. Pozzi, who also examined this case (Dr. Magitot's), thinks it is one of complete scrotal hypospadia; while Fillaux is of opinion that, considering the female voice, the well developed mammæ, and the loss of blood from the genital organs (which in this case of Magitot's was present, in this respect differing from the two cases described above), hermaphrodism cannot with certainty be excluded. The uterus may be so much atrophied that it cannot be felt, and a postmortem may reveal ovaries.

The two cases are most likely hypospadia; but with absolute certainty this diagnosis cannot be made; first, on account of the well developed mammæ of both; and, secondly, the female voice and form of the one.

The urine of the so-called male patient contains considerable albumen, with renal epithelia and casts, and there is a possibility, therefore, that a postmortem will soon make the diagnosis certain. If ovaries shall be found, the case must be classed as one of hermaphroditismus bilateralis.—*Nederlandsch Tydschrift.*

CLINICAL REPORTS.

GLEANINGS FROM ANN ARBOR CLINICS.

SURGICAL CLINIC AT UNIVERSITY OF MICHIGAN.

BY DONALD MACLEAN, M. D.,
Professor of Surgery and Clinical Surgery in the University of Michigan.
Reported by THOMAS J. SULLIVAN, M. D.

CASE I.—RODENT ULCER.

Mr. C. W. B., age sixty-nine, admitted to the hospital on November 3, giving the following history: About six years ago a small lump made its appearance on the back of his head, which in a year began to ulcerate. It was treated by applying caustic plasters, after which the surface healed over; but broke out again in a short time, and spread until it involved the greater part of the back of his head. He has suffered some pain, but general health is fair.

Professor Maclean diagnosed the case rodent ulcer, and recommended the application of Iodoform and cosmoline. This application improved the condition of the ulcer; but as the patient was desirous of a speedy recovery, he was placed under chloroform on the 9th, and by means of a Volkman's spoon the surface of the ulcer was scraped down to the occipital bone, leaving it bare to the extent of the palm of one's hand. Chloride of zinc was then applied to the surface quite freely. It was then dressed with a poultice for a few days, until the slough separated. To-day when he was presented to the class the entire surface of the occipital bone was covered with healthy granulations, they having sprung up through the bone, and the edges of the sore were inverted. Patient states that he feels very well. Further treatment will consist in introducing a large number of skin grafts.

CASE II.—CHRONIC ABSCESS.

Mr. D. C., age twenty-one, presents the following history: About a year agô he suffered from a pain in the right side, which continued until last spring, when it was more severe and somewhat periodical. It was now about the size of a hen's egg and located over the seventh rib. It was diagnosed a chronic abscess, due probably to some injury the patient had received—no tenderness in the spinal column. A fine trochar was then introduced, and a capillary drainage tube attached to the canula which passed down into a basin containing a one to twenty solution of carbolic acid; but it slipped out during the night. He was then brought before the class again on November 9 and a free opening made, when upon passing the finger into the abscess a portion of the rib was found bare. An oakum tent was then introduced and a pad of oakum applied, which was held in place by a bandage. When examined to-day before the class, the wound was almost entirely closed and no dead bone was to be found. Since the above has been written the patient has been heard from and is almost well.

CASE III.—TALIPES EQUINO-VARUS.

The patient, an infant fourteen weeks old, was admitted to the hospital November 26, when upon examination before the class it was found to be a case of congenital talipes equino-varus. Chloroform was administered, and the tibialis anticus and tendo achillies in both feet were divided, also some bands of tense plantar fascia. A pad of cotton wool and a bandage constituted the dressing. The dressing was removed to-day, when it was found that the feet were very much improved. A strip of adhesive plaster about one inch wide was then wound about each foot so as to hold it in place, and then fastened to the leg. A bandage was then applied. The parents advised to have this dressing changed about every three eays, and reapplied under the direction of a competent physician.

CASE IV.—EXOSTOSIS.

Master A. G. T., age fifteen, admitted to the hospital to-day, gave the following history: About one year ago he had an exostosis removed from the distal phalanx of the great toe, but the growth returned in a few months. The patient being placed under chloroform, an attempt was made to save the nail and the shape of the toe, but as the whole of the phalanx was involved it was removed and the skin trimmed off, making a flapp operation. The toe was then dressed with a pad of dry cotton and a bandage.

CASE VI.—HEMORRHOIDS.

Mr. R. C., age thirty years, presented himself before the class to-day. He has been troubled for some time with hemorrhoids, both external and internal. The patient leaning over a table, his buttocks were separated and upon slight straining an internal hemorrhoid came down. A curved needle containing a long double ligature was passed through. Each half of the hemorrhoid was tied separately. The external ones were removed by means of curved scissors and artery forceps.

CASE VII.—STRICTURE.

Mr. S. E., age forty years, contracted gonorrhœa eight years ago which lasted about three months. He says that he recovered from this without any trouble, but three years after he suddenly had some difficulty in passing his water. He passes water more frequently during the day than at night—constant dull pain at the neck of the bladder—stream drops off short at the end of the penis, and much smaller than natural—never passed any blood. Five years ago he applied to a physician, who diagnosed stricture and passed a sound after he had the patient on the table three hours.

November 18 he was examined before the class, when two strictures were found. Symes' stricture staff was passed through the outer one; but as there was considerable tenderness and some bleeding, although no force was used, Professor Maclean thought it best to wait for a few days without making any further effort.

Patient again examined to-day, when, after several of Gouley's whale-bone bougies were passed down to the stricture one finally passed through both and into the bladder. Gouley's number four tunnelled staff was now threaded on the whalebone conductor and passed through the strictures into the bladder. A number five was next passed in without any trouble.

Reported by GEORGE F. HEATH. M. D.,
House Surgeon to University Hospital, University of Michigan.

CASE 1.—REMOVAL OF MALIGNANT GROWTH FROM THE THROAT AND CHIN.

H. J. B., age fifty You will recognize this patient as one brought before you about four weeks ago, and will recall to mind the main facts in the history of the case; how two years ago he noticed a small lump just under the angle of the jaw on the right side; that for the first six months it grew very slowly, was free from pain and freely movable—increasing then in size it subsequently grew to the size of a walnut; this was removed last August, and six weeks later again made its appearance, and this time increased to size of hen's egg very rapidly, the chin becoming involved in the mass, and suppuration soon began. The growth was slightly movable on the jaw and gave him no pain. About this time a portion of the growth was removed for diagnostic purposes and microscopical examination showed many small round nucleated cells and some epithelial nests. This together with the fact of its quick return after the previous operation was positive evidence of malignancy, and it was only by the earnest solicitation of the patient and the hopes that by a thorough operation the disease could be eradicated that I was induced to interfere.

As a considerable portion of the chin was invaded, it was necessary to remove it along with the growth, and great care was taken in dissecting the mass from the mucous lining of the mouth. The hemorrhage was slight until the lower and deeper parts were removed, when a branch of the external carotid, probably the lingual was divided close to its origin. The artery was taken up and ligature applied. Owing to large amount of integument removed the wound gaped to considerable extent, the edges were drawn together and held by hare-lip needle and figure eight suture.

One week after the operation, while straining, secondary hemorrhage occurred which was stopped by simple pressure. The next morning after dressing, hemorrhage again came on. The patient was immediately placed under chloroform and the incision enlarged and the bleeding point seized with the forceps; this upon examination proved to be the common carotid. Ligatures were applied above and below, and the lower part of the wound stitched up and dressed with a pad of cotton and bandage. The wound which I was unable to close at the time, you see is now nearly grown together and filled with healthy granulations, and, best of all, I see no signs of the growth returning. His temperature, at no time, has risen above 103½°, and then but for about three hours, and all the medicine he has taken is about forty grains of quinia, and the same amount of salycilic acid and two or three injections of morphia, a simple dry dressing of cotton lint and bandages constitutes all the treatment he has had. He is looking rather pale from confinement; a change of air will be beneficial and he can go home. This class has now seen within the last two months in this clinic, two of the most prominent arteries that are tied, successfully operated upon; the other operation I refer to is the case of femoral aneurism in which I tied the external iliac.

CASE II.—POTASSIUM IODIDE IN SYPHILITIC HEMIPLEGIA.

Julius H., age thirty-two. This patient on the stretcher before you, has been sent to this clinic from the poor house of Muskegon, Michigan. You will notice his general appearance, the vacant expression of his countenance, on his breast and back the copper colored spots peculiar to the secondary stage of syphilis are noticeable—on his back are two bed sores each as large as my hand which tell of close confinement, in bed; there is paralysis of motion in right inferior extremity and arm, the latter flexed upon the body and from disuse almost anhylosed. I saw him a few minutes three days ago and he told me a pretty straight story as follows: How about two and one-half years ago he contracted syphilis; that about three weeks later one sore appeared on the glans which was removed by caustics; that he has had pain in his bones and other concomitant results of the syphilitic virus. To others he has told contradictory stories, and his speech and actions show conclusively the confused and clouded state of the patient's mind.

About six weeks ago he was suddenly seized with hemipegia of right side with loss of control of the sphincters, the contents of his bowels and bladder passing off involuntarily, and in this helpless condition we see him now. I have no doubt of the pathology in this case, of the existence of gummata, or gummy deposits pressing on the brain, interfering with its function, producing paralysis, and believing that no other medicine acts as effectively in removing these deposits as large and free doses of the iodide of potassium, I ordered him on Monday to take one drachm of this daily in divided doses for a few days. This amount will then be still further increased, if found necessary, and I shall be surprised if we do not find rapid improvement in the case. Cleanliness, good diet and persevering treatment are important factors in the management of patients in this condition. Since writing the above I note the following facts in this case:

December 1.—Patient taking the iodide of potassium in twenty grain doses three times a day; his mind is clearing up and many points in his history obtained only confirming the diagnosis of Prof. Maclean; patient is somewhat irritable and asked for papers to read; no control over sphincters.

December 3: Noticeable improvement to-day. Yesterday raised right arm from body and to-day raised it to his head; not able to move right limb; says he feels much better; appetite and digestion good. Is now taking ninety grains of the iodide daily.

December 4: Still improving; to-day wrote a letter to his mother, using right hand; uses his right hand considerably; general appearance much better; has good control over bowels and bladder.

December 5: Walked with some aid to clinic room this noon and presented to class.

December 6: Still improving; was removed to general ward to-day, from which he had been kept, owing to filthy condition, with slight assistance walking the distance, some seventy-five feet.

December 27: Patient continued to improve rapidly, during last two weeks has taken daily walks on grounds surrounding the hospital. Has continued to take the iodide of potassium in thirty grain doses three times a day. His bed sores have healed and he says he "feels like a new man." He was dismissed to-day and returned home.

CASE III.—BURSA ON FRONT OF WRIST.

Oren T., age twenty-six. In this case you will observe an extensive swelling above the annular ligament extending beneath it to the palm of hand, interfering very seriously with the movements of the flexer muscles of the fingers. Patient states that this condition resulted from a sprain received four years ago, although not an uncommon case, this condition is more frequently found on the dersal aspect of wrist and hand. Patients are not often able to trace the condition to a definite cause. In this form the treatment is often times tedious and unsatisfactory, free openings for the evacuation of the fluids are dangerous, and all other means should be tried first. The subcutaneous division of the anterior annular ligament is a safe and simple operation and affords in my experience the most speedy and definite relief. I will now perform the operation, which you see is done without any complaint of pain by patient and which is attended by the escape of a small quantity of straw colored fluid. The contents of these bursal accumulations vary in character, being sometimes straw colored, thin and serous, sometimes thick and gelatinous, and they sometimes contain small bodies that have the appearance of melon seeds. They are usually innocent and readily yield to treatment which consists in tapping and injecting stimulating lotions, the use of a seaton or by promoting their absorption by means of a fly blister or tincture of iodine.

January 14, 1882: Patient return to clinic to-day, says the division of the ligament gave immediate relief, the greater part of the swelling above and below the ligament has disappeared and he has greatly improved. There being some contraction of the muscles of the fingers a splint was recommended to hold them in place.

CASE V.—CHRONIC SYNOVITIS OF KNEE-JOINT.

Katie Q., age twenty-three. Four years ago last fall this patient appeared in this clinic with chronic synovitis of right knee joint. At that time I had applied a plaster cast to procure rest and immobility, two essentials in these cases. She went home, but contrary to my instructions, for some reason or other, the cast was taken off and four months later she returned with her limb considerably flexed. In these cases, when the race is between the flexors and the extensors, the flexors always come out ahead. Chloroform was administered at that time, the adhesions broken up and the limb straightened, rest, pressure and support given by another cast, which she continued to wear for a long time; the result has been good. I shall now advise her to wear a Sayre splint, and am quite sure she will have a useful limb.

CASE VI.—NECROSIS OF LOWER THIRD OF FEMUR.

Age fifteen. This patient is a brother to the young man in the ward with necrosis of the tibia, upon whom I operated a few days since. In this case we have necrosis of the lower third of the femur. I pass my probe into the sinus and immediately come in contact with dead bone. Chloroform will be given, as he is nervous and the operation will give him some pain. I will make my incision along the track of the sinus, and as I am in close relation to the femoral artery and other important structures, will proceed very cautiously, now I pass my probe upwards and it enters into the femur. I find no loose bone there, but will introduce a tent of oakum, which will provide free drainage and prevent union. In a few days the dead bone will separate and can be easily removed, and the wound will heal.

CASE VII.—NECROSIS OF TIBIA.

Hannah T., age eighteen. This young lady is suffering from a similar condition as the boy just taken out. She says she has, what is usually called by the laity, a fever sore. The history she gives is characteristic of the disease. Exposure she says is the cause. Eight years ago swelling of leg first appeared, and two months later an abscess formed and opened of itself, discharging considerable pus and blood, of very disagreeable odor. This discharge has kept up ever since, running from one to eight sinuses at a time. Two years ago a portion of the upper part of the tibia, about six inches, in length came away.

You will note the swollen condition of the limb; it is a wonder from the extensive disease here, that there is not more constitutional disturbance. I pass my probe into any of the sinuses and strike dead bone immediately.

Chloroform will be administered and I will proceed with the operation. I will first make my incision over the track of dead bone, and now you see me remove many fragments of bone. I will have this dressed simular to last case and shall expect rapid improvement.

BOOK REVIEWS.

THE CENTURY MAGAZINE for January. Century Company, Union Square, New York. Subscription price $4.00 a year in advance; single numbers, 35 cents.

Reminiscences of Theirs is the title of a very readable article contributed to the January Century by Elihu B. Washburn. It should be read by every student of modern history.

Evidently besides being an able diplomat, Mr. Washburn is a writer of remarkable ability. Among the other good things of this number of the Century are an able paper by Washington Gladden on The Increase of Divorce, and an essay on The Legal Aspects of Mormonism by Aurthur G. Sedgwick.

ST. NICHOLAS for January. Century Company, Union Square, New York.

After his arduous duty of supplying the little folks with the expected number of pictures, toys, dolls, etc., at Christmastide, one would expect St. Nick would be worn out and not in condition to regale the little ones with the usual number of stories, poems, puzzles and pictures. But the old gentleman is just as jolly as though he never saw a sooty chimney, and tells stories and sings songs, and draws pictures in a way that would make the gloomiest boy forget his sorrows.

SELECTED ABSTRACTS.

THE ALBUMINURIA OE PUBERTY.

Dr. Dukes (*London Lancet*) thinks that the albuminuria so often noticed about the age of puberty is pathological and is often the foundation of Bright's disease. He gives the following as the history of such cases: "An adolescent has symptoms that make me search for albumeria, either morning headaches, disappearing as the day goes on; or marked dyspepsia; or increased impulse of heart and arterial tension; or slight ordema observed in the face; or a feeling of debility, and even syncope; albumen is found and is followed for years. The heaving heart and the increased arterial tension are sometimes so marked that I can diagnose the albuminuria from it alone, and I am led to examine for it in consequence. Part of this increased cordiac and arterial impulse may be physiological, and owing to causea connected with puberty; part may be due to the hypeæmia of the kidney."

As to the causes he says: "Sometimes scarlatina has preceeded; sometimes it is hereditary; more often its cause is untraceable, it having arisen and progressed insidiously. Microscopically theae are no casts or cells. That this albuminuria is not connected with the secretions of puberty, as has been suggested, is beyond questinn; for whether it be copious or scanty, old or recent, it can be got rid of in an hour or two by putting the patient to bed and giving milk only; and it can be reprodvced at will, by getting up and giving more diet. That it is owing to hyperæmic kidneys is, I think, clear."

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ORIGINAL ARTICLES.

THE SANITARY RELATIONS OF A SINGLE POINT IN THE NEW PHYSIOLOGY OF ALCOHOL.*

BY A. F. KINNE, M. D., YPSILANTI, MICHIGAN.

MR. PRESIDENT AND LADIES AND GENTLEMEN OF THE SANITARY CONVENTION: I have accepted the invitation of your committees to read a paper before this convention with a good deal of reluctance. For the time for preparation was short, my subject is an old one and a very badly worn out one; the month of March is, in my profession, a very busy one; and this audience is too learned and intelligent and critical to be satisfied with anything common-place or merely sensational. But if you will be kind enough to give me your attention, I will do the best I can. I am not sorry, however, that my audience is of so high a character, by any means. For such men will not only be critical, but appreciative as well. Intelligent, thinking and progressive men will be my best auditors. Such men I especially desire to address, and if the views which I shall endeavor to present can be accepted by only a few such men as I have the honor to address on the present occasion, we may feel sure of their ultimate success.

But I am not about to deliver an ordinary temperance lecture. About the entailments of alcohol I shall not have much to say; and not much about the alcoholic beverages. For these beverages are all of them mixtures—possibly in some cases combinations—either natural or artificial, and hence, while in most of them the alcohol will be alcohol still, it will be alcohol and something else, and the general effect will be modified accordingly; when, therefore, we would study the true physiology of alcohol, we must take the pure chemical, the distilled alcohol, by itself.

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* A paper read at the Sanitary Convention held at Battle Creek, March, 1881.

It is important for us to understand, however, as sanitarians that there is practically no difference between the beverages and the chemical, and especially, that the former do not differ essentially among themselves. In all of them the alcohol is the predominating ingredient, they are all intoxicating, and the main point always is, what amount of alcohol does the article in question contain? On this point there has been a great deal of special pleading. One writer criticises temperance reformers for "condemning wholesale about everything that tastes good." Another claims exemption for the undistilled liquors, especially the wines, on the ground that these "commend themselves by their rich color, their agreeable odor and their delicious flavor." Of course, the sensible properties of the wines and brandies are all right. It is the old story of poor Tray. These fine and rich qualities are only to be cudgeled for being found in such wretched company! The grape is one of the most luscious of fruits, and its juice is a delicious beverage. But unfortunately it will not keep. In the ordinary temperature of a grape growing country, decay, as indicated by the escape of bubbles of carbonic acid, commences within a very few hours. But this decay does not attack the grape juice as a whole, the fermentation is confined to its diastase and its sugar, while the rest of the liquid, its delightful perfume, rich color and delicious flavor, are unaffected. These choice qualities then, belong not to the alcohol that is generated, but to the grape. To an article that puts forth such preposterous claims as alcohol does, we cannot afford to yield anything more than is justly due.

There are many other points upon which it would be interesting to dwell, but within the short time at the disposal of this convention, we must confine ourselves to a single question:

Does alcohol possess the two opposite natures usually ascribed to it? It is a narcotic; upon this point all are agreed. When freely given it paralyzes the nerves of sensation and motion, the consciousness, and last of all, the nerves of organic life—and this is death. Is it also a "powerful, diffusible stimulant?" And, if it is not, can it be shown to the entire satisfaction of reasonable men, that it produces its quasi-stimulating effects, which it is freely admitted are apparently very decided, by operating as a paralyzing narcotic? Upon this question it is fair to say that the authorities are not quite in harmony.

All writers upon the materia medica and all the text-books now in use, as far as I am acquainted with them, agree in saying that alcohol, including all the alcoholic beverages, is a powerful diffiusible stimulant; that it excites the whole system, renders the pulse fuller and more frequent, raises the temperature of the body, gives energy to the muscles, and exalts at least temporarily, all the mental faculties. On the other hand, we find William Cullen, who wrote his work upon Materia Medica more than a hundred years ago, holding about the same opinions as to the properties of alcohol, as those which we hold.

But there is now this important difference; what, in the time of Cullen, was only a doctor's opinion, can now be demonstrated. Cullen puts wine and alcohol, under one title, into his catalogue of the "*Sedantia*," along with the rest of the narcotics; while in his catalogue of the "*Stimulantia*" these are not to be found. He freely admits its seemingly double and contradictory character, but puts it down as a "narcotic sedative," and concludes in the next paragraph with these remarkable words:

"That alcohol is such can hardly be doubted; as, when only diluted so much that it can be swallowed, it shows the inebriating, intoxicating and narcotic effects of other sedatives; when taken in small quantity and much diluted, it does not, indeed, immediately show its sedative power; but on the contrary, it may appear as a stimulant, cordial, and exhilarating liquor. As these operations, however, are in common to it with opium and other narcotics, they do not contradict our opinion of its proper sedative nature." (Cullen's Materia Medica; Philadelphia edition, 1808; Volume II, page 181.)

But at the present time, opium is called a stimulant, and a stimulating nature is attributed to all the narcotics that are capable of an exhilarating effect. And this seems to settle all the difficulty. But indeed, it does not settle it. There has been here a great and misleading perversion of terms. We must go back a century and a half, and use the terms "stimulant" and "sedative," as Cullen used them. For the exhilerating narcotics are not capable of stimulating the vital functions, the animal passions for instance; or of elevating the vital temperature, or of invigorating either muscle or brain, except in appearance. As a medicine, there is no reason why we should not concede to alcohol all the value that has ever been claimed. The questions to be settled, relate to its essential nature and mode of operation, and it is quite possible, in any event, that it will still continue to be called a stimulant. But where, meanwhile, if it is not such, will be our skill in the use of terms?

A crowbar may be used to drive a refractory mule with, and it will be a stimulant if it does the work of a stimulant. But when the same instrument is used to remove a stone out of the way of an advancing wheel, it is not a stimulant, although it facilitates progress, it is only a crowbar.

It is a common opinion that alcohol makes the soldier more courageous and that it stimulates generally all the animal passions and all the vicious propensities. An improved physiology teaches, that it is only a narcotic, and that its paralyzing influence is elective. In other words, that like the rest of the narcotics, it always paralyzes the different nerves of the organism, including of course, all the moral and intellectual faculties in a certain order, and always is the same order. The soldier is not any braver; the drug has paralyzed his sense of fear. The drunken man is not more profane and obscene, or murderous, or licentious, or vicious, in general than the evil nature that is in him. The difference is that the narcotic has paralyzed his better nature, which resides in the brain, while his animal faculties which reside in the organic system of nerves, are as yet, unaffected. He is no worse a man in his cups than he was before, but for the time being, his modesty. his decency, his sense of right and wrong, his fear of consequences—all the faculties by which his conduct is regulated—are, more or less under the influence of the narcotic, and his baser passions and propensities are left to have their way with him unrestrained. But we will understand this better as we proceed.

The physiology of the two descriptions of nerves, the cerebro-spinal nerves and the sympathetic nerves, here referred to, is not new. Their existence and their relations to each other, and their different functions in the economy of life, were demonstrated by Bernard as long ago as 1869. We find them running side by side everywhere in the body. They are the telegraph wires of the organism over which messages are sent from organ to organ, or more truly, from ganglion to ganglion throughout the whole system. These ganglia, which under the dissecting knife, are simply little masses of nervous matter, are the telegraph stations; and the vitality sub-divided, "distinct like the billows, but one like the sea," are the operators. But unlike an ordinary electrical wire, a nerve carries messages in only one direction, and transmits only one kind of nervous influence, and is incapable of doing anything else. And hence the necessity for a somewhat complex system of nerves of different kinds, each doing its own work and subserving its own purpose in the animal economy.

As a familiar illustration, suppose I take into my mouth a little food. There goes at once to the salivary glands a dispatch for the saliva that is needed for its proper mastication. This is sent to the brain by the nerves of taste and is reflected thence by the cerebro-spinal nerves, which with reference to their function, are called also the vaso-motor nerves. Presently the call being satisfied, another dispatch is forwarded to that effect, and the flow is suspended. This checking and regulating influence is conveyed by another and different set of nerves, the sympathetics, which in like manner are called also the inhibitory or regulating nerves. This view of the action of these nerves, though correct enough as far as it goes, is doubtless an imperfect one. For reasons that will be obvious to any one who will take pains to look into the matter, the properties and functions of the sympathetic nerves have never been so successfully studied as those of the other nerves. But this at least, and enough for our present purpose, is well understood; the healthy presence and reciprocal influence of both these kinds of nerves, is indispensable to the processes of organic life in every part of the body.

We get proof of the existence and different offices of these two kinds of nerves, and at the same time obtain a very interesting view of the true nature of the chemical itself, when we. study the action of alcohol upon the nerves of the heart.

Take this fact: If you give a little alcohol—the smallest quantity capable of producing an appreciable effect—that effect will in all cases be a quickened action of the heart. There is a nerve in the heart then, that is more susceptible to the influence of the narcotic than any other part of the organism. Then take another fact: When a very large quantity of alcohol—sufficient to produce a fatal result—is swallowed, it has always been observed that after every other part of the body is dead the heart is still beating on, and is the last of all the organs to succumb to the paralyzing influence of the drug. Here are two nerves in the heart then, which, as regards the action of alcohol upon them, are very different indeed. The one which yields up its life to the narcotic so very reluctantly must be a motor nerve; it cannot very well be anything else. And we must conclude that the other nerve, the one which is affected so very easily, is an inhibitory or regulating nerve.

And now let us turn our attention to the alcohol itself. Shall we say that in a small dose it stimulates vaso-motor nerves of the heart and that in a large dose it has an opposite nature and paralyzes these very same nerves? If you say yes, then why cannot some one tell us at what point in the timing and dosing this change of nature takes place? To say the least, it is not likely that the drug possesses such double and contradictory natures. And fortunately, we are no longer obliged to believe that it does, although the evidence in favor of this view is very strong. The true state of the case is this: The alcohol is a narcotic and paralyzing agent all the time, whether in a large dose or a small one; both when it quickens the heart's action and seems to stimulate, and when it overwhelms and fatally poisons the entire system. But true to its elective nature, which has already been referred to, it paralyzes the inhibitory nerves of the heart first, and the more frequent beating of that organ which immediately follows is due to the fact that its motor nerves are no longer checked and regulated. And this is the whole of it, though it is by no means all we shall have to say.

This simple explanation solves the riddle of alcohol and settles the question which has puzzled the wisest of men in all the ages. But we will subject the question to a severer scrutiny.

The elective nature of alcohol is a feature which it possesses in common with all the narcotics of its class. Let us look at a few examples: For instance, belladonna or deadly night-shade. The part of the body most sensitive to the influence of this narcotic is the eye. The instillation of a minute quantity of its active principle, atropia, paralyzes a certain nerve and the result is dilatation of the pupil. This effect is a familiar one and a curious one, and will pay us for a moments attention. The iris is made up of two distinct layers of muscular fibers. There are circular fibers for maintaining contraction of the pupil and transverse or radiating fibers for its dilatation, and these mutually act upon and counteract each other under the stimulus of light. These circular fibers receive their nervous influence from the oculo-motorius, which is a branch of the third pair of cranial nerves and a motor nerve. The transverse fibers, on the other hand, are supplied from the ophthalmic ganglion with a sympathetic nerve. The action of the muscular fibers of the iris, both the circular and the transverse, is involuntary, like that of the muscular substance of the heart.

But, unlike alcohol, belladonna paralyzes the motor nerve first, leaving the pupil to be immovably dilated by the uncounteracted influence of the sympathetic.

Any narcotic, therefore, which paralyzes the inhibitory or regulating nerves sooner than it does the motors, will make the heart beat faster. And any narcotic that paralyzes the motor nerves before its influence reaches the inhibitories will produce dilitation of the pupil. Chloroform is another instance of the former kind, and stramonium or thorn-apple of the latter.

Alcohol reddens the face; and when fully developed, this effect among tipplers, is called "the flush of wine," and has always been regarded as evidence of the stimulating power of the drink. In fact, it is only a proof that these beverages are poisonous. No true stimulant was ever known to produce a heightened color even of the face, while on the other hand, the flush produced by some of these poisons, notably the deadly night-shade and the thorn-apple, is more distinct than that of alcohol.

Alcohol is an exhilerant, and as such stands at the head of the list. Some of the alcoholic beverages may have other qualities far more choice and rare and valuable than this, but this alone is common to them all. This is their enticement and their charm; and in this quality also resides their power to deceive, mislead and destroy. And this exhilerating power of alcohol has always been regarded as proof of its power to stimulate. But do not let us be misled by mere definitions. Here are two remarkable facts:

(1) The true stimulants which cheer, cannot be made to intoxicate by increasing the quantity taken.

(2) And a number of the narcotic poisons are capable of exhilerating, the same except in degree as does alcohol, and some of them are habitually used for that reason.

But if we confine our attention to its effect upon the action of the heart, our view of the elective paralysis of alcohol will be an incomplete one. We must follow these accelerated blood currents on to the ultimate tissues of the body, the flesh, which they are intended to nourish; and study there the influence which this paralysis of the sympathetic nerves, seems to have upon the capillary circulation, and upon the processes of waste and repair. The phenomena to which we refer are most conspicuous, as seen in the face; there we must have already seen them; and there we will now proceed to study them.

And we are now prepared to make what will probably be regarded as the most important announcement of this paper: *The very same appearances and effects, which the use of the alcoholic beverages produces in the face of any one, can be produced by the simple experiment of dividing the sympathetic nerve that runs to the face and furnishes that part with its influence.*

The reference here is to Bernard's well known experiment of dividing the sympathetic nerve in the middle of the neck of any one of the warm blooded animals, for instance the rabbit. (See the original French, or more readily, perhaps, "Dalton's Physiology," sixth edition; Philadelphia, 1875, pages 589, 592.) The whole account is too long for this paper; but the importance of the subject will justify us in quoting a few sentences.

The effects and appearances resulting from this experiment are of three kinds, all intimately connected with one another.

"First, the quantity of blood circulating in the part is increased and its movement accelerated. It is not a state of passive congestion; but all the vessels are simultaneously dilated, a larger quantity of blood passes through the capillaries in a given time, and returns by the veins in greater abundance than before.

"Secondly, there is a remarkable elevation of temperature in the affected part."

This is very perceptible to the touch; or it can be accurately measured by the thermometer. Bernard found it in some cases to reach 8° or 9° above the natural outside temperature of the part. But there is no development here of extra heat; there is simply a disturbance of the equilibrium of the circulation by which the warmer blood of the centers of the body, is transferred in abundance to the outside.

Thirdly, the blood goes through the capillary vessels without its usual and healthy change of color. It goes into the tissues arterial blood, and goes out of them into the veins nearly arterial blood still. Cutting the sympathetic nerve then has paralyzed the control which that nerve exercises over the size of the capillary vessels; and has suspended also the processes of waste and repair. In other words, the bright color of the venous blood shows that the rich nutriment, which the arterial blood contains, has not been used for the purpose of tissue repair, and that the waste and rubbish of the tissues has not been taken down and removed.

And the bearing which this very curious and interesting demonstration, must have upon the question of the true nature of alcohol is sufficiently obvious. We have only to compare the face of the little animal whose sympathetic nerves we have paralyzed by dividing them, and especially its thin and semi-transparent ears, with the face of a person under the influence of alcohol, in order to see that the effects in the two cases are precisely the same; and to see also, that the effects in both these cases must be due to a similar cause;—in the one case as well as in the other, to a suspension of the vitality of the sympathetic nerves, which the alcohol and the surgeon's knife are equally potent to paralyze.

The necessity for saying that alcohol is a "powerful, diffusible stimulant," therefore, can now no longer exist. Since we have shown, with the conclusiveness of a demonstration, that its quasi-stimulating effects are due to its elective paralyzing influence upon the inhibitory nerves; leaving certain functions, chiefly mechanical in their nature, to the unchecked and unregulated influence of the motor nerves. But here is a question which will suggest itself to many minds, and which we will now proceed to answer.

Since it appears that alcohol accelerates the capillary circulation and the action of the heart, must it not follow, even though it does its work indirectly, that more blood is carried to the brain, and that it is, after all, a powerful cerebral stimulant?

But we must first know more of the deceitful nature of the chemical we are examining. Here is a man who is shaking with an ague. His hands and feet are cold, his lips are blue and cold and his whole body, to the sense of touch, or according to his own feelings, is about as cold as the body of a dead man. But upon putting a thermometer into his mouth there is fever already present; the temperature of the inside of his body is higher than natural and is steadily rising. Then, here is another man who is well under the influence of some one of the alcoholic beverages. His circulation is accelerated, his eye is brilliant, his face is red and warm, and by measurement the surface of his body, and especially his face, is warmer than natural by a good many degrees. The evidence, both objective and subjective, is very strong, that alcohol is a powerful heat generating stimulant. But the clinical thermometer has contradicted and corrected all this to the surprise of the whole world. It is now understood that it possesses no calorifacient power whatever. On the other hand, as soon as a quantity sufficient to produce any change at all is taken, the temperature is reduced by it. The surface temperature is higher than natural, as already noted, but it is never raised above 98½° which is the usual inside heat of the body, and it is steadily reduced, along with the bodily heat generally, whenever the potations are continued beyond the point of complete intoxication. And it is hardly necessary to add, that all these points have been settled by carefully conducted scientific experiments in Germany, in France and in England, as well as in this country.

But if alcohol is so capable of reducing bodily heat, it must be a febrifuge and the experiments that have been made upon this point by John Bentley Todd, Binz, Liebermeister Losin, and many others, have been of the highest interest. And the view that it is not contraindicated in fever, but, on the contrary, that it is an efficient remedy even in the most sthenic cases, though met at first even with ridicule, is now well established.

The question whether alcohol increases the amount of blood circulating in the brain or not, was settled by Dr. Hammond in 1874. (See the *Psychological and Medico-Legal Journal*, Volume I, Number I, page 13.) And it was settled in the negative. No intracranial blood pressure was detected during the stage of arterial excitement, and there was none when the point was reached when the animal's gait was staggering and his movements uncertain. But when complete muscular paralysis was seen to be present, the fluid in the tube of the instrument began slowly to rise; it was highest when the pupils were dilated and the coma was complete; and slowly fell again with the return of sensibility.

This discovery of Dr. Hammond, that the rapid capillary and arterial circulation, which alcohol produces, is superficial, *is confined largely to the face*, and does not extend to the interior of the cranium, was quite unexpected and is very important. It certainly affords the popular idea, that these beverages are true arterial and brain stimulants, no encouragement.

The direction of the blood currents towards the face here referred to, is among the most familiar of the toxic effects of the drug. And it has always been a misleading one. These men of florid faces and rotund forms, are apparently in the very best possible physical condition. They are the best fed men in the community. And we can not very well resist the impression that their choice liquors are positively nutritious. But a well fed face is not florid; and a well nourished form is not over loaded with fat. As has been already explained, these men are florid because the venous blood still holds and carries off the nutriment which was intended for the tissues; and they are too fat because their flesh retains too much worn out matter, and because the alcohol, being a foreign substance, must be burned up first to get rid of it and the adipose matter which is the natural fuel of the body is thus left behind. The true condition of these fine looking men, therefore, is not what it seems to be. They are not well nourished and they are not strong; and in the presence of severe illness or of a serious accident, are known to be bad subjects.

Among the many popular errors with regard to the nature of alcohol, the idea that it is a stimulant of muscular and mental ability, is perhaps the most common. It is the chief of the exhilerants as has been admitted; but that it is anything more than this, there is not a scrap of genuine evidence to show.

Muscular strength can be accurately measured, and all observers agree that its uniform effect upon the muscular system, is to weaken whenever enough is drank to produce any effect. ("Cantor Lectures;" New York, 1876, page 118.)

We shall best understand the action of alcohol upon the brain, if we will recall what has already been said with regard to its elective paralyzing power over the mental faculties and take a few illustrations from common life.

Here is a company of "jolly good fellows," all standing on their feet, their faces red and radiant, and all swinging their arms and talking and vociferating at once. These men have been taking alcohol and surely you will say it has stimulated them. But if we will attend for a moment to what they are saying, we shall see there is no true brain stimulation about it. We shall be reminded rather, of what Addison says of the difference that exists between the mind of the wise man and that of the fool. "There are infinite reveries, numberless extravagances, and a succession of vanities which pass through both. The great difference is, that the first knows how to pick and cull his thoughts for conversation by suppressing some and communicating others; whereas the other lets them all indifferently fly out in words." The case with these revelers is precisely this; the poison which they have taken has paralyzed their conservative faculties and the talking propensity is running on without anything to hold it in check and regulate it.

Sir Joshua Raynolds having maintained that wine improved conversation, Dr. Johnson replied: "No, sir; before dinner men meet with great inequality of understanding, and those who are conscious of their inferiority have the modesty not to talk; when they have drunk wine, every one feels himself comfortable, and loses that modesty, and grows impudent and vociferous; but he is not improved,.he is only not sensible of his defects."

It is one of the saddest of the entailments of alcohol, that so many men of transcendent genius, the brightest ornaments of the race, have been numbered among its victims. And, by a strong but not quite unaccountable perversion of reason, their best works have been frequently ascribed to their alcoholic drinks. Leigh Hunt, for instance, states that "Don Juan" was written under the influence of gin and water, leaving us to infer that without such assistance, Byron never could have accomplished it. Nothing could be wider from the reality than such ideas; while at the same time, there is seeming truth in them. The case is precisely this. The habitual inebriate is, to all intents and purposes, a sick man; being all the time in the one or the other of these two diseased conditions. He is either under the influence of the narcotic, or the drug having more or less completely spent itself, he is, to a greater or less extent, in that state of nervous prostration, that immediately follows. And while he is in neither case quite up to his normal condition, he may in some instances, come nearer to it in the former state than in the latter: and thus lead superficial thinkers into the error that alcohol is a cerebral stimulant, and that he could never have done his very best without it. Before this is admitted, we have a right to insist that the comparison shall be instituted, not between Byron in the one, and Byron in the other of his disordered mental states, but between Byron the inebriate and the same great poet, as he might have been, if alcohol had never laid its leaden finger upon him. Later in life, (but not much later for he died at thirty-six,) its effect upon his mind was apparent to all. "Midnight draughts of ardent spirits and Rhenish wines" says Macauley, "had begun to work the ruin of his fine intellect. His verse lost much of the energy and condensation which had distinguished it." (*Edinburgh Review*, 1831.)

Our own countryman, Allen Poe, was an inebriate, also; but it could never be said that he drew his inspiration from drink. On the other hand, it was on account of his dissolute habits that he wrote so little. According to his biographer, R. W. Griswould, his "Raven," his "Annabel," his "Eureka," and indeed, all his best poems and essays, were written during lucid intervals, snatched from his crazy debaucheries, and after his nervous system had had time, in a measure at least, to right itself. Thus it appears, that although it has been frequently and flippantly claimed, that alcohol is the stimulant of genius, there is really no valid ground for the assertion.

We have now concluded what we have had to say. And it is much to be desired, that persons, who are not yet prepared to accept these views, because they are new and strange, or because they are so directly opposed to long cherished opinions, will try the experiments referred to, for themselves. It will not be difficult to do so, and the result cannot fail to be a favorable one.

Suppose for instance, you measure your muscular strength with a "health lift," or with a dynamometer; and then take some of the drink in the strength inspiring power of which you have most confidence, and when you are exhilerated by it and feel as if you could shoulder a large fragment of Mount Olympus, measure your strength again. The drink has fooled you, that is all. You felt that you were stronger than natural; you find that the narcotic has been true to its paralyzing nature, and that you are weaker. Then, after a time, when the drug has spent itself, and reaction, (so called) comes on and you feel weak and prostrated, measure your strength once more. Fooled again. The stuff has fooled you twice. When you felt yourself strong, you found yourself weak, and now when you feel yourself weak, you find yourself stronger, your natural strength is returning, and what you have called reaction, is in reality recovery from the weakening effects of the narcotic.

Many questions bearing upon the health and welfare of individuals and communities will present themselves to the minds of the sanitarian and philanthropist, but upon the present occasion we shall not have time to enter upon this branch of our subject.

One thought is prominent. Alcohol is not the warming, cordial and invigorating stimulant that it seems to be. And there is matter of great encouragement in the fact, that the essential oneness of its nature can now be *demonstrated*, and need no longer be regarded as a mere opinion.

It is to be expected, however, that these views will make their way slowly. For there is a world full of preconceived opinion to be met and overcome, and the opposing influences are numerous and immensely potent. But the truth must prevail at last. Its true place is not along with the displays of wealth and luxury, upon the side-board, but in the medicine chest along with hasheesh, henbane, opium, stramonium, and so forth, labeled as a POISON.

REPORT OF AN EPIDEMIC OF MEASLES.

BY G. W. ORR, M. D., CENTRAL MINE, MICHIGAN.

I am aware that measles is a disease very common and usually harmless unless complicated. Most all physicans meet with it in their daily practice, but it seldom falls to the unhappy lot of any one physician to have on his list two hundred and forty-five cases, with all the usual complications, two hundred and twenty-nine cases requiring his daily attention and care, and covering not to exceed seventy days of time. Such an epidemic was prevalent in this location from the latter part of April last through May and June. Old and young were alike its prey; the youngest was born with the disease; eighteen had had the disease before, and one, twice before. One little girl had the second attack two weeks after recovering from the first. I could hardly credit this if I did not know it to be true. She was two years of age, fleshy and of light complexion, had all the usual symptoms, catarrhal and cough, rash, continued fever, running as high as 105° in the evening during the development of the rash. Considerable bronchial irritation, bowels open, face badly swollen, nothing unusual in this case, except quite severe. I was so very busy that as soon as the rash and fever subsided I dismissed the case. Nearly three weeks later I was called to see the child. The parents were very anxious as there was scarlet fever in the neighborhood. The child's neck, face, wrist and arms were completely covered with rash, face swollen, eyes suffused, catarrhal symptoms prominent, cough quite severe, bowels open, tongue coated, but not characteristic of scarlet fever; cervical glands not swollen, and had not vomited; rash dark, capillary circulation sluggish, earache and quite severe bronchial irritation; fever very much the same, except it as well as the rash continued twelve to twenty-four hours longer than the first attack. Scarlet fever was quite out of the question, but why not *rotheln?* The sequel will explain. There were five children besides patient, in the family; all five had measles during May; the oldest, a girl thirteen years of age, had the disease five or six years before, but this did not protect her. None of the five had any symptoms of rotheln or scarlet fever, and have not had either disease before or since. What was it, if not measles?

Many of the two hundred and twenty-nine cases were complicated, twelve by acute bronchitis, seven broncho-pneumonia one capillary bronchitis, two broncho-pneumonia and entero-colitis, two ulcer corneæ, two latent in pregnant women, and one with scarlet fever. The uncomplicated cases were all severe. Nearly all the two hundred and twenty-six had an evening temperature of 105° during the development of the rash, and quite a number went as high as 106°. The rash was invariably confluent, so much so that we were inclined to call it inflammatory. The majority of these cases suffered from earache, three suppurated; the result was five deaths, all from complication. I will give you in as concise a form as possible a history of these cases:

The night of May 9, I was called to Mrs. J., a strong vigorous English woman, age thirty-three. She was quite well advanced in her second labor, dilatation nearly complete; feet and ankles quite œdematous. She had complained of a harrassing cough for a number of days; her labor was easy and in a short time she was delivered of a well developed female child; soon after, I left my patient feeling very comfortable indeed. The following morning I found her very comfortable. The nurse called my attention to the child, which I found covered with a dark measly rash; nurse said she noticed it while washing the night before. The rash commenced to disappear from the upper extremities during the first day, and by the end of the third was entirely gone.

May 11: Patient quite comfortable; skin moist; cough quite annoying; small amount of mucous expectorated; temperature and respiration nearly normal; pulse 100, small and feeble. Lochia normal. She remarked she was not alarmed on account of the measles, as she had them twice very severely when a girl. She complained of a feeling of oppression of the chest, but otherwise was very comfortable. I ordered liberal diet of beef tea and milk.

May 12: Patient very much the same; cough a trifle better; oppression of the chest her only complaint; respiration free and easy all over the chest; breasts well distended with milk. Fearful that there was slight septic poisoning I prescribed anti-septic doses of quinine sulph.; also vaginal wash of two per cent. solution of carbolic acid to be used with syringe twice a day. Oil was ordered, as her bowels had not moved since confinement.

May 13, A. M.: Chest and upper extremities covered with dark rash; small, round spots, very numerous; very dark at center, and shaded off light at the margin; temperature 101°; pulse 110, feeble; respiration 19. Skin moist; bowels had moved; still complaining of an imaginary weight or oppression of the chest. Nothing abnormal could be discovered by percussion or auscultation. In the evening found no particular change; rash had entirely enveloped the body and was extending down the limbs. Temperature 102°, pulse 120, small. Skin moist, respiration free and easy. Still complaining of oppression of chest; ordered hot applications to chest, and heat to feet; also stimulants.

May 14: Very much the same as yesterday.

May 16: A. M. Rash completely enveloping body and limbs; face, up to this morning, has had nothing unusual in its appearance, but now has a grayish, pale, extremely anxious exprrssion. Skin moist. Temperature 102°, pulse 130, very small; respiration 20, and not embarrassed; cough not as bad; did not rest well during the night; tongue coated, light brown in center, pale at end and borders, discharges from bladder were quite abundant. Extract veratrum viride was prescribed with the view of reducing the pulse.

Evening visit: Temperature 102 2-5°; pulse, 136, feeble; respiration, 20; countenance very anxious; I requested counsel; increased stimulants. I remained with patient greater part of night. Dr. Woolway came and we did what we could to make her comfortable. About midnight temperature began to rise; at 6 A. M., a few minutes before death, her temperature was 106 2-5°; temperature always taken in the axilla. The annoying features of this case were the continual low temperature, (until just before death) rapid feeble pulse and oppression of chest; the capilliary circulation was sluggish. Turpentine was used externally and internally. She died by coma.

More than two years prior to Mrs. J.'s last sickness I met her at a neighbor's where I was attending a lady in confinement. She informed me that she would want my services in about two or three weeks. Two months later she called at my office. She stated that she had one child now six years of age, and soon after he was weaned she became unwell, and remained so regularly until about one year ago, and she had not been unwell since. She was confident when she told me she wished my services that she was in the family way, but after a month went by with no change she began to think that all was not right. She felt very much as she did when carrying Angus, her boy, and she had steadily increased in size. She had every reason to believe she was pregnant. After I had thoroughly examined her, I informed her she was not pregnant, nor was there any perceptible signs of tumor, but an unusual accumulation of adipose. I gave her syrup ferri iodidum. She menstruated soon after, and the following year became pregnant.

In the morning of May 19, 1881, I was called to see Mrs. M., age thirty-four, primipara. Found her well advanced in second stage of labor, head presenting in first position, her labor was rapid and comparatively easy. She did nicely until the morning of May 21. I was surprised to find her suffering from puerperal peritonitis. She said sometime during the night she had alternate hot and cold spells. I found her face flushed, tongue slightly coated, abdomen puffed and extremely tender over lower third. Lochia, scant and fetid. Temperature 105°, pulse 120, wiry and incompressible. Respiration 28.

I gave her extract aconite fluid radix, one drop, every hour, and ten grains quiniæ sulphate at once, with instructions to give five grains every three hours. Irrigation of vagina, with two per cent. solution of carbolic acid, and bags of hot hops were applied over abdomen.

In the evening: temperature 102 1-5°; pulse, 100; respiration not so rapid; perspiring profusely; bowels moved without cathartic during the day. Aconite was reduced to one drop every three hours. Quinine continued.

May 22: Temperature, 100°; pulse, 94; full, regular, and soft. Lochia more abundant and not so offensive. Aconite was stopped, but quinia continued. Evening temperature, 100°; pulse, 96; pain and tenderness all subsided.

May 23: Temperature 102 2-5°; pulse, 102; rash covering face and neck; a very full measle rash. She has coughed a trifle for several days, but catarrhal symptoms are not marked. She had measles when a child in England. Bowels had moved again during the night.

Evening temperature, 103° ; pulse, 120, full and bounding; rash covered, trunk and upper extremities fully, but not very dark; capillary circulation seemed good. I continued irrigations of vagina and quinine to control temperature. She has no pain, and has taken beef tea and milk quite liberally.

May 24: Temperature 103 2-5; pulse, 130, small and wiry. Rash completely enveloping whole body and limbs. Center of spots are darker; capillary circulation not so good; countenance anxious. Aconite was again given, and counsel requested. Dr. Lawbaugh arrived about four o'clock. It was then time for her quinine. Dr. L. advised withholding the quinine until hour for third dose and then give fifteen grains morning and evening. At nine o'clock in the evening her temperature was 104 3-5; pulse, 136 to 140; respiration, 26; fifteen grains of quinine sulphate was administered, with directions to administer a like dose at six o'clock in the morning.

May 25: At a few minutes after seven o'clock I found patient unconscious and dying. Temperature, 108 2-5°.

During this epidemic I attended eight confinements, Mrs. J. and Mrs. M. the only victims of the disease.

In July following the epidemic Mrs. Edwards was confined and had measles, but the epidemic influences were gone and the disease was mild. She was quite sick for a few days, but made a good recovery.

[TO BE CONTINUED.]

AN INEXCUSABLE MISTAKE IN DIAGNOSIS, AND THE FALLACY OF TREATING SYMPTOMS.

BY B. A. OWENS, M. D.. PORTLAND, OREGON.

Miss M., age twenty-two years. A bright and accomplished young lady. For six years had suffered from neuralgia of right ovary. For the first three years the attacks were slight and irregular, but gradually increasing both in duration and severity. Had been under medical treatment during the last three years, and, to use her own words, "had taken enough medicine to kill a dozen persons." Her side had been bathed, rubbed, plastered, and blistered to no purpose. Attacks continued to come more frequently and with greater severity. Her physician advised a change of climate. She took a trip to California for several months without benefit. For the last three months pain had been almost constant, and she had grown quite melancholy during the last year. Menstruated regularly and freely without pain. Menstruation seemed to have no influence whatever upon the ovarian pain. Bowels very free, usually from two to three actions daily. Appetite and digestion good. Sleeps well. External examination revealed neither tenderness nor enlargement in the ovarian region.

Examination per vaginam showed enlargement of the uterus to the extent of one and a half inches; experienced no pain upon probing the uterus. Superior lip of cervix large, dark and congested. Inferior lip completely denuded of its epithelical coat, and covered with large fungoid granulations which had a tendency to bleed upon the slightest provocation. From this granular surface was poured out a thick, tenacious, albuminous discharge, streaked with blood and pus. After thoroughly cleansing I made an application both internally and externaly of Churchill's iodine, dressed with absorbent cotton and bismuth cream, ordered a douche of one gallon of hot water to be used night and morning, and a discontinuation of all drugs. Next morning found the superior portion of the cervix much swollen, dark and tense. I punctured it with a sharp-pointed bistoury and it bled freely. This local depletion brought much relief. After continuing the iodine treatment with local depletion when indicated, for ten days with but little change for the better, I resolved to test the efficacy of the nitrate of silver. I therefore applied the stick freely to the denuded surface and the cervical canal as well. This heroic treatment seemed to act like a charm, and from the day of application rapid and steady improvement began. After a few days the ovarian pain almost ceased. What pain still lingered about was confined to the sacral region. This was a new feature in her case, as she had never suffered from those symptoms, "backaches," which are so common in uterine troubles. She soon became light-hearted and cheerful, declared that if it was not for the discharge and for my telling her that she was not well, she would believe she was well. During the eight weeks of treatment the uterus returned to its normal size. The albuminous discharge disappeared and the cervix was restored to a healthy condition. I discharged my grateful patient with a mind freed from the dreadful fear of ovarian disease that had haunted her for years.

I will add that during my patient's treatment she was absent but two days from her work, which is that of a recording clerk in a large office where the requirements were very laborious.

EDITORIAL BRIEFS.

We regret to announce the decease of our valuable exchange, *The Medico-Chirurgical Quarterly*. It was edited with ability and was worthy of a longer existence than one short year.

We again call the attention of our readers to Wyeth's compressed tablets for hypodermic use. After having tried them now for nearly a year and after using several hundred of them, we pronounce them far superior to the powders and solutions formerly used. The dose is more exact, the convenience is increased one hundred fold, and there is no danger of poisoning a patient with a decomposing solution.

The sanitary convention to be held in Ann Arbor, February 28th and March 1st, under the auspices of the State Board of Health, promises to be one of special interest. Up to date the following papers have been promised: "What the law can do for health," Justice T. M. Cooley; "The hygiene of the eye." Professor C. J. Lundy, M. D.; "How to combat small-pox," O. W. Wight, M. D.; "The ambulance hospital for small-pox in cities," Professor H. F. Lyster, M. D.; "Ventilation," Professor J. W. Langley; "Meteorlogical conditions affecting ventilation," Professor M. W. Harrington; "Ventilation of basements," A. F. Kinne, M. D.; "The relation of the press to sanitary matters," Honorable W. L. Eaton; "The care of health a christian duty," Reverend T. P. Prudden; "Hygiene and the clerical profession," Reverend George Duffield; "The purification of water by freezing," C. P. Pengra, M. D.; "Water supply," Azel Ames, sanitary engineer; "Report of analyses of samples of milk," Messrs. Brown and Packard; A paper, subject not yet announced, by Dr. Havens; "School life and hygiene," Professor W. Perry. Besides these papers, the question of water supply and disposal of filth will be discussed by Professor Prescott and others; School life and hygiene, by Reverend W. H. Ryder, Judge N. W. Cheever, W. F. Breakey, M. D., and others. Dr. Kapp, mayor of the city, will give the address of welcome, and Honorable LeRoy Parker, President of the State Board of Health, will give an introductory address explaining the object of the convention and the work to be done. All interested are invited to be present.

MEDICAL NEWS.

Dr. Deubel reports a case in which syphilis was communicated by skin grafts.

Professor Verneuil treats phimosis by dilation in preference to circumcision.

Dr. Franzolini, an Italian, has successfully extirpated the spleen. This makes six successes out of about thirty operations.

Dr. Orton (*British Medical Journal*) uses with benefit, applications of solutions of sodium salycilate in acute rheumatism.

Dr. Vergely recommends that the urine of all patients with angina pectoris should be examined, as the angina is sometimes due to diabetis.

Dr. Thin (*Practitioner*) uses a solution of boracic acid in glycerine made into a cream with wax and almond oil for fetid sweating of the feet.

Dr. Smith (*British Medical Journal*) reports several cases of lead poisoning in weavers from handling yarn colored yellow with the chromate of lead.

Dr. Thompson (*British Medical Journal*) treated three cases of tetanus, with two recoveries, by the hypodermic use of one-sixth grain extract of physostigma.

Drs. Lepine and Guirin state (*Revue de Medicale*) that there is an excess of unoxidized sulphur in the urine in cases of disturbance of the biliary function.

Dr. Clubbe (*Lancet*) treated successfully a case of diabetes insipidus by Faradism over the kidney employed every day for about twenty minutes for twenty weeks.

Dr. Yacke prefers atropia in menorrhagia and hæmoptysis to ergot. He uses hypodermically five drops three times per day of one part of atropia sulphate to one thousand of water.

To dry up the flow of milk Dr. Martin (*Medical Times and Gazette*) covers the breast with freshly picked parsley leaves, which are renewed several times per day. They act speedily and effectually.

Dr. Armangue treats tonsillitis by the local application, several times per day, of bicarbonate of soda. But we believe that aconite is a specific for tonsillitis and should be loath to use any thing else.

Dr. Boechat finds that recent soft goitres yield more rapidly under the external application of iodoform than by the use of either iodine or the iodide of potassium. He uses a glycerite of iodoform which is protected by a coating of collodion.

Some prominent French physicians are now treating phthisical patients by forced feeding. Milk, eggs and raw meat are introduced into the stomach through the tube of a stomach pump. Salt, peptones and cod-liver oil may be added to the food.

Professor T. G. Thomas has performed a successful removal of a kidney. The tumor was large and was supposed to be ovarian until the abdomen was opened, when a large, partly cystic and partly solid, tumor of the kidney was found. The whole mass was removed, and the after-treatment was the same as that used in ovariotomy.—*Medical News.*

Gaillard's Medical Journal calls attention to the fact that when calomel is given, tincture of iron and other strong mineral medicines should be withheld until the mercurial has been excreted, as there is danger of the formation of corrosive sublimate. We suppose, however, that all medical students have had their attention called to this many times.

Dr. Huchan (*Jour. de. Ther.*) gives the following formula for hæmostatic pills:

℞.	Ergotin,	
	Quiniæ Sulph....................................	āā ʒss
	Digitalis,	
	Ext. hyoscyami................................	āā gr. v

M. Fit pil. No. X. S. One every 2, 3, or 4 hours.

A **French** Journal recommends the following as an injection in gonorrhœa:

℞.	Glycerini..	10	00
	Potassii bromidi..............................	6	00
	Tinct. opii..................................	2	00
	Aquæ....	150	00

M. S. Use five times per day.

Professor Da Costa reports six cases of diabetes insipidus treated with ergot with five recoveries. The remedy is given in the form of fluid extract and not less than three fluid drachms per day, and this amount should be gradually increased to double its quantity. It may be well to follow the ergot, after the amount of urine has been reduced to the normal, with strychnia. In other cases where the ergot must be continued for some time, cod-liver oil is a good adjunct.—*Medical News.*

Dr. Stewart (*Medical and Surgical Reporter*) has the following to say about some new remedies:

"*Grindelia robusta* I have found valuable in asthma, bronchitis and like affections; *jaborandi* is a good diuretic, diaphoretic and sialagogue; *yerba santa* proves to be of value in diseases of the mucous membranes; *cascara sagrada* I esteem of undoubted merit as a tonic to the stomach and bowels. In my hands in several cases of atonic dyspepsia and constipation it has given prompt relief. Experience has convinced me too that not all the preparations in the market can be relied upon and results have been secured sometimes only after repeated trials of different manufacturers' preparations; *damiana* as a tonic to the procreative organs is, in my opinion, of real value."

As to the value of pilocarpin in diphtheria, Dr. Faludi (*Bull. de Ther.*) states:

(1) Administered internally it is of incontestible value.

(2) On account of the insalivation produced, it is good in all inflammations of the mouth; but not better than potassium chlorate, and by no means a specific.

(3) It is especially valuable in light cases of diphtheria.

(4) It does not prevent the disease from extending into the larynx and air passages.

(5) When the air passages are invaded the remedy is of no value.

(6) When given to young children, stimulants should also be administered on account of the depressing effects of the pilocarpin.

CORRESPONDENCE.

MICHIGAN STATE BOARD OF HEALTH.

Reported for THE PHYSICIAN AND SURGEON.

The regular quarterly meeting of this Board was held January 10, 1882, at its office in Lansing, the full board being present. The secretary presented his quarterly report showing some of the work in the office during the past quarter. The quarter had been a very busy one, made so, in part, by the numerous outbreaks of diphtheria, scarlet fever, and small-pox in the state, which had required much correspondence and the sending out of many documents. The compilation and issuing of the weekly bulletin of health in the state is now so systematized as not to take as much time as at first. It is published in probably two hundred newspapers in Michigan. In response to a request, fifty-seven health officers of villages have begun to make weekly reports of diseases. The board reaffirmed the demand for these reports from health officers of cities. To each place in the state where diphtheria, scarlet fever, or small-pox was reported present, a letter was written to the health authorities giving full instructions and suggestions how to prevent the spread of the disease. Documents containing elaborate and particular directions have been sent for free distribution throughout the vicinity. Each officer was requested to make a special report on the epidemic under his care, and some of the reports show how by determined action, to stamp out a contagious disease. The number of communications written during the quarter was one thousand four hundred and fifty-nine. The number of diphtheria documents distributed was twenty-nine thousand; of scarlet fever documents, five thousand; of general rules for restriction of contagious diseases, six thousand;

reprints of weekly bulletins, seven thousand; as showing the necessity for inspection and disinfection of immigrants, their clothing, baggage, etc., and especially for a system of surveillance to their destinations, a statement was made by the secretary, of the introduction of typhus fever in Benzie county, by Norwegian immigrants. The disease made its appearance over sixty days after the arrival of the immigrants, and spread quite freely (not being reported at the time or treated as a contagious disease by the local authorities) causing may cases of illness, and at least three deaths. The importance of inspection of immigrants at Port Huron and of keeping those believed to be liable to spread communicable diseases under surveillance until their destination is reached and then placing them in the watchful care of the local board of health was freely discussed. As this board has no funds available for such a purpose, the subject was referred to the president, secretary, and Dr. Lyster to confer with the National Board of Health, and take such action as is possible.

A report by Honorable LeRoy Parker, relative to duties of health officers in verifying diagnoses of contagious diseases was read and ordered printed in the annual report. Mr. Parker reported the following: In Gaines township, Genessee county, a child of Mr. B.'s died of what a doctor designated malarial fever, and did not report the case to the Board of Health, though it seems probable that it was really diphtheria. A neighbor and wife, Mr. and Mrs. B. assisted in preparing the corpse for burial. About the same time a child of Mr. S. died from "sore throat," not reported as "dangerous to the public health," and some of the children of Mr. B. attended the funeral. Soon after Mrs. B. was taken sick with diphtheria and in turn thirteen out of fourteen members of the family had it, and seven out of ten children died. The Board of Health promptly isolated this household, but the attending physician's error in diagnosis, or failure to report the first case was fatal to the hopes of that family. In this connection the Board adopted the following preamble and resolutions:

WHEREAS, It is often difficult to recognize mild cases of diphtheria or to distinguish such cases from a simple pharyngitis or laryngitis, and,

WHEREAS, Such mild cases of diphtheria often communicate a dangerous and fatal form of diphtheria,

Resolved, That it is the duty of physicians and householders in reporting diseases dangerous to the public health, and of local health authorities in their efforts to restrict such diseases, in every case to give the public safety the benefit of the doubt.

Resolved, That suspected cases of dangerous diseases should be reported, and precautionary measure should be taken.

Drs. Kellogg and Avery were appointed a special committee to report on the present knowledge of diphtheria, and Dr.

Lyster was appointed a special committee to report upon the present knowledge of typhoid fever.

Mr. Parker reported that persons guilty of removing contagious disease placards from their houses could be punished under the law which made the house in which the contagious disease was a hospital, if declared so by the Board of health, and subject to their rules and regulations. All rules and regulations of a board must first be published, then penalties may be infiicted for any violations.

Dr. Avery, as special committee on the subject, made a report relative to the overflowed lands in Gratiot and Clinton counties, and presented a resolution from the board of supervisors of Gratiot county. In accordance with the report the Board adopted a preamble and resolution as follows:

WHEREAS, The Board of supervisors of Gratiot county has passed resolutions asking this State Board of Health to investigate the subject of the sickness caused by the overflow of Maple river, because of the dam at Maple Rapids, and "to advise the removal of said dam as being detrimental to the health of the communities living in the vicinity of said river," therefore,

Resolved, That the board of supervisors of Gratiot county be informed that this Board has already had an investigation made and from the report of such investigation is convinced that the dam at Maple Rapids causes a nuisance and advises that, in case the owner of said dam will not remove the same and thus abate the nuisance caused by the overflowing of land along said river, a bill in equity should be filed against the owner of said dam to compel him to remove the same.

The secretary was directed to correspond with some persons in some city in the western part of the State relative to holding a second sanitary convention this winter. One will be held at Ann Arbor February 28 and March 1. These conventions are held in accordance with invitations received from citizens, and under arrangements made by a local committee acting with a committee of this Board.

Dr. Hazlewood reported on the inspection of summer resort hotels as regards danger from fire, and asked if the present law providing for such inspection was not sufficient. Dr. Baker thought the law should be amended so as to take the inspection duties away from the political officers and place them among the duties of local boards of health. The question was referred to Mr. Parker, committee on legislation in the interest of health.

The secretary presented a report of work of local boards of health, showing much good work done during the past season in the restriction of contagious diseases. He read letters showing the action of local boards. of health with contagious diseases, one from J. R. Thomas, M. D., health officer of Bay

City, relative to diphtheria; one from W. G. Elliott, M. D., health officer of Pontiac, relative to scarlet fever; and one from Foster Pratt, M. D., health officer of Kalamazoo, relative to small-pox.

The secretary also read a resume of work of other State Boards of Health, and it showed that typhoid fever was very widely prevalent, that small-pox was very prevalent in the northern and northwestern States, and that intermittent fever was present in Connecticut, Massachusetts, and Rhode Island.

The next regular quarterly meeting of the Board will be April 11, 1882. There will be a special meeting of the Board in connection with the Sanitary Convention at Ann Arbor, February 28 and March 1, 1882.

TRANSLATIONS.

Translations from Russian Journals for THE PHYSICIAN AND SURGEON.
BY RALPH D'ARY, M. D., ROMEO, MICHIGAN.

CLAY IN CARDIAC AND VASCULAR NEUROSES.

BY N. I. SOKOLOFF.

Dyspnœa and pain, are known to be the most constant and most troublesome symptoms of aneurism of the ascending aorta. Sometimes they appear only from time to time, in the manner of a more or less severe angina pectoris; in other cases, however, they torture the patient almost continuously, remaining uninfluenced even by the most energetic remedies. I therefore think myself justified in making known a remedy which in these cases is frequently of inestimable value. It is the *common plastic* (or *sculptor's*) *clay*, which is applied in a cake to the place of the supposed aneurism or over the heart, according to the location of the pain. This remedy has been employed for several years in the clinic of Professor S. P. Botkin, as a palliative in every variety of stenocardia, and especially in cases of presumed aortic aneurism. But I will describe a case that occurred in my private practice, in which the effect of the clay poultice was more brilliant than in any other case under my observation.

The patient, a manufacturer, aged forty, had suffered for three years from dyspnœa and darting pains in the right half of the breast, "stabbing through" from front to back, and extending to the right shoulder and arm as far as the elbow. These attacks come on with the least motion or excitement, and lately had become so severe that the patient hardly dared to move at all. Even riding on the railroad was almost impossible to him, as the shaking increased the attacks almost beyond a possibility of endurance. Neither was he free from these attacks when at rest, although they were not so severe.

I found unmistakeable symptoms of aortic aneurism—probably of the ascending part—which had acquired enormous dimensions. It formed a tumor extending from the right clavicle to the fourth rib, and almost to the right axillary line. It had caused absorption of the second and third rib; it pulsated strongly and auscultation revealed two distinct sounds, the first rather prolonged, the second short and clear. The heart was occluded, but two sounds could be heard at the apex. The pulse in the right carotid was small; in the subclavian, hardly perceptible; in neither was it synchronous with the corresponding vessel of the other side.

In the right upper part of the thorax the respiratory murmur was weak, and percussion sound dull; and behind, at the scapular angle, the expiratory sound was bronchial, with slightly tympanitic percussion sound; lower down, as well as all over the left side of the thorax the respiratory murmur seemed increased. His voice was quite clear, and never. not even during the severest paroxysm of dyspnœa and pain, did it show those characteristic changes that are caused by compression of the recurrent nerve. There was no cough. Several years previously the patient had had a severe blow on the chest; fifteen years previously he had had syphilis followed by secondary symptoms.

The above comprised all the diagnostic symptoms, and I diagnosed aortic aneurism. Since there were no signs of pressure on the large bronchi and the œsophagns, notwithstanding the enormous size of the aneurism, I concluded that it extended principally in a forward, outward, and right lateral direction. The weakened respiratory murmur dextro-anteriorly and the bronchial expiratory sound posteriorly at the scapular angle showed that the upper lobe of the right lung was crowded back and compressed. As to the dyspnœa, it undoubtedly had the character of cardiac asthma (angina). It could not be the result of a mechanical exclusion of air, since there were no signs of compression of the larger bronchi, neither could it be ascribed to the compression of the upper lobe of the right lung, (1) because the severity of the symptoms was altogether out of proportion to the comparatively small breathing surface compressed, and (2) because this compression had taken place very slowly and gradually, compensation being at the same time established in some measure by increasing expansion of the left lung and the noncompressed part of the right one. It was not a bronchial asthma (angina) because there were none of its characteristic symptoms present. Finally, the character of the attacks was quite typical of cardiac asthma (angina): There were quickened shallow breathing, palpitation, a sense of oppression, despondency, fear, and pain extending to the right shoulder and elbow. I therefore diagnosed as above stated. Professor Botkin has shown, and my own observations have fully confirmed the fact, that in aneurism of the ascending aorta, and especially the bulbus aorta, cardiac asthma (angina) is a constant, and sometimes the only reliable symptom for differential diagnosis. I have seen several post-mortem proofs of it. The pain we looked upon as a natural consequence of the angina, since it existed only during the attacks, and was not noticed on pressure. I have thus purposly detailed this case in order to afford the reader a better opportunity of appreciating the results of my therapy.

During the three years of his illness, the patient had been under constant treatment by respectable physicians, and on looking through the heap of prescriptions (which he had preserved) I came to the conclusion that aneurism had been suspected, and that all the usual remedies for it had been tried. He had, for instance, taken iodide of potash for a long time, which, considering his anamnesis of syphilis, was especially indicated. Yet he had found no relief. No better did he fare with bromide of potash, various narcotics, belladonna, amygdalin, ergot, salts of silver, various narcotic unguents, liniments, and electricity. Not even the slightest temporary relief had followed any of these remedies. I therefore made no prescription for internal use, but advised him to apply a cake of sculptor's clay over the tumor, mornings and evenings, the clay to be of the usual consistency for moulding figures.

Notwithstanding that I had frequently observed the beneficial effect of this remedy in Professor Botkin's clinic, I was astonished at its efficacy in this case. After so many sleepless nights the patient could sleep again. The attacks of dyspnœa and pain almost disappeared, and did not return with any degree of violence even when moving, so that in a few days the patient was not only able to move freely but also to take walks and climb stairs. He stayed a fortnight in Saint Petersburgh and then returned to his home in one of the provinces, satisfied that the improvement would be permanent.

Exactly a year later he returned again to the Capitol, but this time not for treatment, only in order to show himself to me. During that year he had felt better than during the preceding four years; he had had hardly any pain, and the dyspnœa occurred but rarely and in a very mild form; he had given full personal attention to his complicated manufacturing concern, and had passed through a severe attack of epidemic diphtheria. He looked hale and stout; he promenaded much, ascended stairs, and spent some evenings in the close atmosphere of a theatre, with impunity. But I was still more astonished to find that the aneurismal tumor had positively decreased in size, and that the pulsation, though remaining quite distinct, had become weaker. In other respects he presented the same symptoms as before. He had not been one hour without his clay poultice, and looked upon it as his means of salvation. This time I had an opportunity of presenting him to Professor Botkin who fully concurred in my diagnosis of aneurism.

How does the clay poultice exert its therapeutic effect? I cannot give a satisfactory answer. Since its influence is most apparent where the aneurism lies most superficially, I would be inclined to ascribe the effect to the constant, even, and gentle pressure, which would tend to reduce the tension in the walls of the aneurismal sac, whilst supporting the adjacent structures. Probably there is some truth in this explanation. But it is not wholly satisfactory, for I have seen most excellent effects from the clay poultice in cases where the aneurism lay deeply and no pulsation could be felt, and I have also frequently observed the same beneficial effects in angina pectoris not depending on aneurism, as for instance in cases of cardiac hypertrophy, or of simple neuroses, without organic changes in the heart and vessels. The cooling influence of the clay cannot be accepted because other cooling compresses in similar cases do not give such results, and sometimes even aggravate the attacks. Neither would the clay remain cool for any length of time, and it was changed only once in twelve hours, on account of its becoming too dry.

The severe paroxysms in connection with aneurism in most cases must be looked upon as pure neuroses; and especially in cases like the above, where there is no evidence of pressure on the vessels or important adjoining organs. According to Professor Botkin this neurosis is probably caused by inflammatory action in the cardiac plexus, which is more or less involved in the disease, as for instance, in aneurism of the origin of the aorta. If this probability be admitted, the question suggests itself: Does not the clay act in analogy with the metals in the various peripheral neuralgiæ, such as those of the trigeminal, or sciatic, or other nerves? [The reader is here respectfully referred to the article on page 471 of the October (1880) number of THE PHYSICIAN AND SURGEON, which will explain the author's allusion to the action of the metals. See also page 368, August 1881, where the clay poultice *failed* to relieve.—TRANSLATOR]. I therefore induced my patient to try the application of zinc and lead foil, but with unsatisfactory results. Thus the question is still an open one.

The reader will not understand me as recommending the clay poultice as a specific in these cases. I have described the most unusually favorable case, but I have also seen many other cases of improvement, though less marked and also some failures.

If we admit that the clay has a direct influence on the cardiac nervous apparatus, we can more readily understand its curative, or palliative influence in some purely vascular neuroses, such for instance, as the pulsations of the abdominal aorta, sometimes complained of by nervous, hysterical women. For in these cases a clay poultice applied to the place where the pulsation is felt, generally gives excellent results.—*E. Clin. Gaz.*

FURTHER OBSERVATIONS ON TURPENTINE IN DIPHTHERIA.

On page 271 of the June number (1881) of THE PHYSICIAN AND SURGEON, our readers will find some remarkable statements of Dr. Bosse, on the almost specific effect of turpentine in diphtheria. He now communicates to the *Berlin. Klin. Wochenschr.*, Number X, (1881) another series of observations:

His wife, aged thirty-eight, of strong constitution, was attacked with diphtheria. She had a strong fever, her face was of greenish-gray color; on both tonsils there were diphtheritic exudations, glistening, yellowish, and strongly adherent. B. gave her a tablespoonful (about three and one-half drachms) of oil of turpentine and some milk afterwards. There followed eructations, a sensation of dryness in the throat, and oppression in the region of the stomach, but there was no vomiting. Toward night the fever was weaker and the pain on swallowing had diminished. In the night her sleep was somewhat quieter. She had great thirst. The next day her general condition was much improved, the exudation loosened up and paler, the tonsils looking as if they were covered with freshly curded milk; the exudation could be easily removed with a spatula, but the mucous membrane underneath was yet much congested and bled; deeper down there still could be seen patches of firm yellow exudation, but they were of much smaller extent. The patient was given another tablespoonful of oil of turpentine. She had three diarrhœic passages, one after the other. She drank a great deal of milk. The next night she slept comfortably. The morning following there were no more signs of the exudation left, the fever had left and she had no more pain on swallowing. She recovered rapidly.

Two days prior to the lady's recovery, her seven-year-old daughter was attacked with diphtheria. She at once received 8.0 (two drachms) of rectified oil of turpentine. After her, in succession, her three brothers were attacked. They were twelve, five, and two and three-fourth years old. The oldest was given a tablespoonful of turpentine, but as he immediately spit out some of it he was made to swallow two drachms more, some five hours later. The second boy was give 8.0 and eleven hours later he vomited a yellow bilious-looking fluid, strongly smelling of turpentine. After the vomiting he slept quietly. The smallest boy (who was rachitic and had had meningitis eighteen months before) spit out a part of the teaspoonful given him, but an hour later he was made to swallow another 5.0 of the oil.

Every one of the four children showed same improvement the next day after taking the oil, that has been described in the case of the mother, and in a short time they all recovered.

Since then Dr. B., has treated eleven cases of diphtheria, exclusively with large doses of turpentine, and with the happiest results. Whereever physiological symptoms appeared (such as vomiting, purging, etc.,) they were very slight, and in most cases they did not appear at all.

In order to show the harmlessness of oil of turpentine Professor Naunyn, in 1868, took, inside of four hours about 300.0 (ten ounces) of it, made into an emulsion with the yolk of eggs. The next day he had a slight headache, which soon disappeared, and he felt no other consequences. *Med. Obozr.* Your translator begs to state that he has treated a little German girl, seven years old, by giving her two drachms of turpentine twice a day for a week, without producing any symptoms that could be referred to the turpentine. She complained of a burning in the stomach *one week after the last dose of turpentine*, which latter, therefore, could hardly be the cause of the burning. The patient's parents—both intelligent and careful—had been specially instructed what symptoms to look for, but positively denied any appearance of them. The little one was scrofulous and had passed through the measles and scarlet fever with serious implication of the cervical and submaxillary glands (under another physician's care) immediately prior to the attack of diphtheria, and was terribly emaciated, yet able to sit up and play about the room. When I was called to see her she was dressed and up, but looked ashy pale, and held her mouth wide open in order to breathe more freely. Her throat presented the most dreadful local development of diphtheria that I have seen in a practice of fifteen years. In order to relieve her I removed the tough yellow accumulations in lumps and flakes with the forceps. Some pieces presented accumulated layers of membrane reaching a thickness of more than a quarter of an inch, leaving the usual bleeding surface. I prescribed the turpentine as above, and a gargle of a two per cent aqueous solution of chloral hydrate—as a local and constitutional antiseptic, astringent, and disinfectant. She was also directed to take a teaspoonful of the gargle internally every two hours. Her pulse was extremely rapid and small, denoting great cardiac and general nervous depression. For this she received ammonia carbonate and tinct. convallariæ majalis florum in small doses of strong, sweetened coffee, without milk. Under this treatment she improved rapidly, so that at the end of a week the throat was clear and well, and herself feeling apparently better, but the pulse remained almost unchanged. During the second week she was given:

Cinchonia alkaloid (tasteless)...........	gr. ¼
Tincture convallariæ maj. flor...........	♏ 3
Strong sweetened infusion coffee.......	f℥ 1

at one dose, four times a day. Occasionally a teaspoonful of brandy was added.

Having made this prescription I discontinued my visits, having first warned the parents of her dangerous condition.

Two weeks later the father called me up in the night to see his child. On the way he told me that she had appeared to him to gain strength every day, and had been playing outdoors for the last two days. On seeing her I diagnosed progressive cardiac paralysis. I will not describe the symptoms, since they correspond very closely with those described on page 57, of the February (1880) number of THE PHYSICIAN AND SURGEON, except that they were desperately urgent. I gave the parents no hopes, administered ammonia, brandy, and e. f. quebracho, which temporarily relieved the poor child's distressing dyspnœa. The next afternoon she died. It was a peculiar case. Throughout the course of the diphtheria her muscular strength had remained almost unimpaired, and she was up and dressed every day. Half an hour before her death she got up and out of bed, and back again, into bed, without assistance.

I was led to use the chloral hydrate solution through remembering the valuable dissertation of Mr. Tarassevitsh. See page 270 of June 1881 of THE PHYSICIAN AND SURGEON.

Translations from French Journals for THE PHYSICIAN AND SURGEON.

BY R. A. PACKWOOD, LES ILES, BERMUDAS, WEST INDIES.

CONTINUATION OF "LARYNGEAL TUBERCULOSIS."

BY DR. JOAL.

The first case observed, and to which we referred in another work, related to a woman eighty-three years of age, who presented at the right base of the epiglottis a large ulcer of tuberculous nature. Pulmonary complications, seated at the right apex, in the stage of softening. This patient during treatment, at Mont-Dore, had three attacks of hemoptysis—was treated in the atomizing wards, and after such operation rejected sanguineous sputa in considerable quantity. The first day we did not suspect nor recognize the cause of the hemorrhage, but after the third seance we were quite prepared to make a laryngoscopic examination, and distinctly saw the blood oozing from the epiglottic ulceration. The atomizing jet was thrown against the diseased part with too much force—the direct action being too strong had ruptured a vessel of the ulcerated surface.

Second case, a woman of fifty-eight years: She had been for four summers at Mont-Dore; was of nervous temperament; and stated that she had suffered some pulmonary difficulty for twelve years—that she had had pneumonitis. Auscultation indicated the presence of a cavity in the right sub clavicular region; had been hoarse frequently since, and aphonia about two weeks; at this time the voice is quite harsh. At the commencement of the pulmonory disease, had abundant and depleting hemoptysis; for some time had expectorated bloody sputa, but was conscious that it did not come from the lung; she did not experience the sensations perceived at the time of other hæmorrhages, the blood was in the mouth immediately, appearing after a spell of coughing, and when she had expectorated muco-purulent matter which was free from blood.

Laryngoscopic examination discovered a large ulcerous patch upon the left superior vocal cord, and this probably extended into the ventricular cavity. The loss of substance was very deep, the bottom was grayish, except at one point, where a slightly prominent redness was observed—this point we thought might be the source of the hemoptysis. Some days later, bloody expectoration having returned, the hemorrhage was distinctly seen to ooze from the point indicated; cleaning the ulcerated surface with a sponge, the blood immediately reappeared from a ruptured capillary—coming on after a spell of cough.

Third case: Patient had enjoyed good health during youth; he was only forty-eight, but presented all the signs of premature old age, having exhausted his powers in the pleasures, *de Baccho et Venerè*, for fifteen years. Had several attacks of hemoptysis in 1877, and at that time also dry crepitation was heard at the posterior portion of the apex of right lung. Later, patient complained of a sensation of heat and pain in the laryngeal region, and said that for eight days following cough, he had spit small quantities of blood. Several ulcerations of the inferior vocal cords, and solution of continuity in the median and posterior portion of the right ventricular band were observed by the laryngoscope, and after a second or third examination the blood was seen coming from the ulcers.

The three cases just related allow us to assert that laryngorrhagia may occur in the course of laryngeal phthisis; we consider this an accident and not a symptom frequent and common to the disease, on the contrary that it is a rare phenomenon, and its existence cannot be denied absolutely. Hemoptysis of laryngeal origin, when from an ulcerous surface, comes from recently ruptured capillaries. Let us now add too, that the above cases were advanced in age and consequently more favorable condition for rupturing the vascular tunics. We have never observed hemorrhage from the larynx, in phthisicals, outside the ulcerous period of laryngeal tuberculosis.

Other rational signs of which we shall speak, in few words, are the pain, dysphagia, and dyspnœa.

Various alterations of diseased parts are generally painless, the patients suffering only during the inflammatory stage, when acutely excited. But pain may be provoked by the strain from cough, phonation and by movements in deglutition. The severe earache should also be observed, felt when swallowing solid and also liquid aliment. Dysphagia is quite pronounced when the epiglottis is the seat of ulcerations; if the operculum is partly or wholly destroyed, particles of food may be arrested in the laryngeal vestibule, and provoke cough followed by regurgitation.

The difficulty in respiration is in some rare cases due to paralysis of the dilators of the glottis; the dyspnœa is ordinarily referred to narrowing of the trachea from œdematous swelling, by vegetations and shreds of detached mucus—respiration may become whistling from a constriction in the tube. We have observed, at different times, laryngeal spasm in those attacked with tuberculosis of the larynx, we have seen them produced in young subjects presenting congestive or inflammatory phenomena of the mucus; and admit that on two occasions we were greatly startled and for an instant feared a fatal issue, in some adult patients who had spasm of the glottis after slight cauterization of the mucous membrane.

We call attention to this fact, because certain authors pretend to say that laryngeal spasm is rarely observed in the course of tuberculosis of larynx. In some cases reflex sensibility of the larynx appeared to be diminished or abolished; in others on the other hand it seemed considerably augmented, and this has been observed particularly in those of nervous temperament, and whose voice had failed.

The treatment to pursue with phthisicals presenting laryngeal complications is by general means ordinarily opposed to pulmonary tuberculosis, by local processes, and topical measures by the aid of which we combat the prominent manifestations of the larynx. We shall enumerate the various therapeutic methods by which we endeavor to prevent the appearance and evolution of tuberculous phenomena; but will say a few words of laryngeal medication, so called.

We recommend the use of emollient inhalations, revulsives over the throat, derivatives and cathartics when congestive or inflammatory signs show themselves acutely. In chronic laryngitis and in the first stage of laryngeal phthisis we resort to the use of alcoholized erythroxylon coca, used in the atomizer directly to the mucus; touching the parts with glycerine and iodine, or with a weak solution of zinc chloride furnish good results. When the disease has reached the period of ulceration we touch the altered parts with the liquor of Villatte, or creasoted glycerine. Moreover we have recourse to morphine preparations whenever there is any manifestation of local pain or dysphagia. To these different therepeutic modes, under the influence of which the laryngeal lesions of phthisis are susceptible and improved, it is necessary to add the practical bathing and fumigating or inhaling, used for the most part at our hot springs. The Mont-Dorian medication is of incontestable benefit in the treatment of complications of organs of the voice.

The different balurotherapeutic measures which constitute the Mont-Dorean medication, are highly useful in the prophylactic and curative treatment of tuberculosis; their employment and association varies according to the temperament of the patient, the form of the disease and the predominance of this or that symptom. Nevertheless when laryngeal complications exist, inhalations, atomizing and douches to the throat must be insisted on particularly.

The mineral vapors of Mont-Dore are emollient and sedative; whenever acute symptoms, congestion or inflammation manifest themselves, they tend to relieve them—they should be considered anti-phlogistic in action. Brought in contact with the laryngeal mucus the vapors diminish its irritability, lessens its reflex sensibility, and it has been observed that laryngoscopic examination is better tolerated after an application. The mineral inhalations produce excellent results in acute laryngitis, in trasient hyperæmia of the tuberculous; under their influence the afflux of blood, the sensation of heat and dryness perceived by the patient is moderated, cough is diminished in frequency and intensity, the laryngeal mirror allowing the improvement of objective conditions to be observed at same time the discoloration and tumefaction of mucus becoming gradually less. In case of laryngeal phthisis, in the period of ulceration and suppuration, the vapors operate as a general wash or application to the vocal cavity, cleansing the surface wounds and removing purulent products from the laryngeal walls. In the latter stages of the disease, in patients who have pain indeglutition or dysphagia, inhalations may be employed with great benefit, as they diminish or cause the painful phenomend to disappear temporarily.

The mineral water applied by the atomizer produces upon the laryngeal mucus a slightly excitant action, toning up the vitality of the membrane. It has a moderately irritant action, and some have greatly exaggerated its therapeutic power, affirming that after five or six days treatment, the vocal cords often present a markedly improved condition.

Pulverization is very useful in the treatment of paralysis of the vocal cords, originating from a nervous or a tonic condition of tissues.

Employed during the period of ulceration of laryngeal phthisis, facilitates the development of granulations necessary to the repair of the ulcerated surface.

Does the mineral water, by atomization, produce œdema glottidis? We think not, although from fear of this complication several of our confreres interdict it in phthisicals attacked with laryngeal ulcers. The water does not have such marked irritant properties, and we have never had cause to regret such accident.

We make frequent application of tho douche, directing the jet to the anterior part of the throat, and feel highly satisfied with the effect of the balueotherapeutic measure, and strongly recommend its use.

BOOK REVIEWS.

NERVOUS DISEASES: THEIR DESCRIPTION AND TREATMENT. A MANUEL FOR STUDENTS AND PRACTITIONERS OF MEDICINE. By Allen McLane Hamilton, M. D., Fellow of the New York Academy of Medicine; one of the attending physicians at the hospital for Epileptics and Paralytics, Blackwell's Island, etc., etc. Second edition bound and enlarged. Cloth; pages 598, with 72 illustrations. Philadelphia Henry C. Lea's Son & Co., 1882. For sale by John Moore, Ann Arbor.

The first edition of this work was issued in 1878, and its high merit was immediately recognized by the profession. The present edition is enlarged nearly one hundred pages, and contains many new illustrations. The author's prize essay before the American Medical Association in 1879 has been incorporated as a chapter on diseases of the lateral columns of the cord. Localization of disease in the brain and cord have received additional attention, and other chapters have been remodelled and improved. Evidently Dr. Hamilton does not believe so much in specifics for epilepsy and catalepsy as some other writers do. Hammond, for instance, has never failed to effect a cure in catalepsy by the use of bromides combined with the oxide of zinc, and with the simultaneous use of strychnia and other tonics. On the other hand, Dr. Hamilton does not mention the bromides in giving the treatment of catalepsy, but relies for the relief and abortion of the paroxysm upon the induced current and amyl nitrate. True catalepsy is a very rare disease, but the writer of this notice has treated one case and found the induced current the only source of relief, while the bromides did harm rather than good, as bromison and partial dementia were produced by small doses of the drug—ten grains three times per day. Dr. Hamilton has found picrotoxin of no value in epilepsy. The remedies which have proven of value to him in the treatment of epilepsy are bromides, chloral hydrate, belladonna, digitalis, strychnia, ergot, mercury, cod liver oil, arnica, amyl nitrate, and tri-nitro-glycerine.

The work is one which the intelligent general practitioner cannot afford to be without.

A MANUEL OF ORGANIC MATERIA MEDICA, BEING A GUIDE TO MATERIA MEDICA OF THE VEGETABLE AND ANIMAL KINGDOMS FOR THE USE OF STUDENTS, DRUGGISTS, PHARMACISTS, AND PHYSICIANS. By John M. Muisch, Phar. D., Professor of Materia Medica and Botany in Philadelphia College of Pharmacy. Cloth; pages, 460, with many illustrations on wood. Philadelphia: Henry C. Lewis, Son & Co., 1882. For sale by John Moore, Ann Arbor.

This work gives the essential, histological and chemical characters of the organic drugs of the United States and British Pharmacopœias, and of all other important ones. Wood cuts are given in all cases illustrating both the gross and microscopical appearances of the drug and of the adulterations. Besides being of value to the student, the work will be a great aid to the druggist in his purchases, enabling him to detect adulterations. The work is from a master in his department, and is an evidence of the truly scientific study that is now being pursued in pharmæology.

NOTES ON A COURSE OF LECTURES ON GENERAL CHEMISTRY, ELECTRO-THERAPEUTICS, AND CHEMICAL PHYSICS. Delivered by J. W. Langley, M. D., Professor of General Chemistry in the University of Michigan. Edited by Orion J. Fay, D. D. S., member of the class. Cloth; pages, 130; with alternate blank leaves for notes. Price, $1.25. Ann Arbor: S. C. Andrews, 1882.

These notes are quite full, are presented in good form, and will prove indispensible to Professor Langley's students, and of great value to any one desiring a knowledge of the subject. A list of questions given at the close of the volume adds to its value.

THE EVOLUTIONIST AT LARGE. By Grant Allen. Humboldt Library, Number xxvi. Price, 15 cents. Paper; pages, 50. New York City: Fitzgerald & Co.

This consists of a series of interesting and instructive papers on the scientific study of certain objects seen in everyday life. The object is to awaken a desire for scientific study, to enable one to see and comprehend a few of the many beauties and wonders by which we are surrounded, but which are too frequently unknown to us.

THE CHEMICAL ELEMENTS.

This is a chart giving at a glance the name, symbol, valence, specific gravity, atomic weight, electrical state, discovery, derivation, specific heat, fusing point, physical state, compounds, sources, uses, and general considerations of all the chemical elements. It will prove indispensible to the medical student. Send twenty-five cents to the author, G. G. Groff, M. D., Lewisburg, Pennsylvania.

A TREATISE ON HUMAN PHYSIOLOGY DESIGNED FOR THE USE OF STUDENTS AND PRACTITIONERS OF MEDICINE. By John C. Dalton, M. D., Professor of Physiology and Hygiene in the College of Physicians and Surgeons, New York. &c., &c. Seventh edition. Half Russia; pages, 722, with 252 illustrations. Philadelphia: Henry C. Lea's Son & Co., 1882. For sale by John Moore, Ann Arbor.

An extended notice of Dalton's Physiology is altogether unnecessary. To the American medical student it is the best known work on the subject, any which is somewhat elementary in its scope (when compared with the works of Foster and Hermann), the presentation is excellent, and considered as an elementary work, to be followed by others more exhaustive, there is no better text-book.

AIDS TO RATIONAL THERAPEUTICS. By J. Milner Fothergill, M. D., M. R. C. P. Paper; pages, 121. Price, 25 cents. New York: G. P. Putnam's Sons, 1882.

This little book is full of practical and valuable suggestions given in the author's most pleasing style. The make-up of prescriptions, the suitability of remedies for special cases, and thousands of valuable hints are presented. Buy the book and you will be certain to read it many times.

Joel A. Miner, Ann Arbor, sends us a nice and well arranged day and call book. Price in leather $1.25.

SELECTED ABSTRACTS.

GLEANINGS FROM TRANSACTIONS OF STATE MEDICAL SOCIETIES.

(1) Michigan State Medical Society, 1881.
(2) Mississippi State Medical Society, 1881.
(3) Missouri State Medical Society, 1881.
(4) Alabama State Medical Society, 1881.
(5) Illinois State Medical Society, 1881.
(6) New York State Medical Society, 1881.

(1) The transactions of the Michigan State Medical Society contains some very valuable papers. Dr. C. B. Burr, of the Eastern Michigan Insane Asylum, proves by a number of cases the value of cocculus indicus in epilepsy. He concludes that the remedy is adapted to those patients in good bodily health, whose convulsive seizures are accompanied by maniacal excitement. The remedy probably acts by paralyziny the vasomoter nerves and preventing anæmia of the brain. The beginning dose is one-fourth drop of the fluid extract three times a day.

Professor Leonard illustrates by an interesting case the close connection between uterine displacements (especially retroversions and retroflexions) and certain disorders of the eye and brain, and points out the value of local uterine treatment in these cases.

Professor Reynolds urges the treatment of club-foot at birth. His method is as follows: "I first surround extremity with batting or wool, and never apply splint over the side of relaxation, because hard, unyielding pressure tends much more to enfeeble muscles than an elastic one, such as bandage alone over wool.

"For contracted side, I bend a soft splint well in opposite direction from contraction, and especially well around the toes, or if they are bent well over by the splint, the long tendons of weak side have at once greater leverage, and soon become active in moulding the foot.

"I dry the splint till hard before applying it, and then bandage not lower down than metatarsus for the purpose of allowing some motion to the toes; for alternating contractions and relaxation are almost constant in the tendons of the young child's foot, and those that are weak being left somewhat free, will soon equal in strength their stronger antagonists under the splint.

"The dressing should be removed daily at first to allow bathing and friction, and to avoid injury from pressure."

Professor Lundy reports a cure of acute glaucoma with the sulphate of eserine. Leeches were applied to the temple, and a few drops of a two-grain solution of the sulphate of eserine was placed in the eye every fifteen minutes for the first twenty-four hours, then every two hours for the same time, then two or three times per day until there seemed no danger of return.

Professor Lyster reports a case illustrative of the great value of the systematic use of alcoholic stimulation and narcotics in protracted pneumonia.

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(2) President Hyer's address is a strong and righteous denunciation of quackery among graduates. Hon. J. S. Morris gives an excellent paper upon the "Rights, duties and responsibilities of physicians before the court." He says: "There is no legal obligation upon a physician, in the first place, to attend every case to which he is called, or to assume, *nolens volens*, every case that offers itself. He is no hotel keeper or common carrier, who must accommodate every comer without choice or discretion. He may exact his own fees, though they may be above the customary charge of the profession in his locality. He may charge one more and another less; he may practice his profession gratuitously; he may refuse such calls as he pleases, and attend to such as he pleases, but when he does undertake to treat a case he will be held to the law, as

I have stated it, in respect to all his duties and responsibilities." In speaking of the compensation offered for expert testimony he says: "In such a case what shall be the measure of his (the physician's) compensation? Shall he be required to wait and attend upon the beck and call of a stranger, of one who is in no sense entitled to his services, and for the paltry pay which is allowed to an ordinary witness? To ask such a question is to answer it. For it must be borne in mind that it is not the knowledge of facts that is sought, but his generalization of facts already sworn to by others, and his scientific interpretation of them, by the skill, experience and learning of an excellent profession. * * * And the party who would seek or the court who would enforce gratuitous contributions from a physician would *ipse facto* prove that he is not a seeker or minister of justice, but a wrong-doer in the one case, and an ignorant, official tyrant in the other."

Dr. Gadbury gives a plan for the abortive treatment of pneumonia, which depends upon the following principles: (*a*) To give rest to the injured organs by paralyzing the respiratory nerve centers so as to reduce the respiratory movements nearly to the normal standard, (*b*) to arrest the congestion and excudation, (*c*) to reduce the temperature and pulse, and (*d*) to support the system. For the first the following combination, modified to suit the age and idiosyncrasy of the patient is used:

℞.	Calomel,	
	Bicarbonate soda..................... āā	grs. xij.
	Quinine..	ʒj.
	Acetate morphia.............................	grs. iv.

Mix and make twelve powders. Sig. One powder every two, three or four hours until the respirations are reduced nearly to the normal standard or profound narcotism ensues. Veratrum and aconite are used to aid in the reduction of temperature and the system sustained upon alcohol.

Dr. Vaughan, in his report upon new remedies, speaks favorably of cascara in constipation, napthaline in the spasmodic stage of whooping cough, pilocarpin in the removal of dropsical accumulations, artificial inflation in diseases of the lungs, and the application of dry earths after Hewson's method in irreducible hernia.

Dr. Ward brings forth many weighty arguments to prove that the chief cause of cholera infantum, entero-colitis and the choleriform diarrhœa of French authors is the effect of the excessive heat of summer on the nervous system, and to correct this he uses in all cases quinine together with the remedies ordinarily used.

The volume contains other papers of interest which space will not permit us to abstract.

(3) President Allen gives a strong plea for a thorough medical education. He strikes at the root of things and lays the

disgrace where it belongs. Of our medical schools, he says: "It is proper to state that nearly all of them in the United States and especially in this State (Missouri) are private institutions except the State University. Furthermore, any number of gentlemen may band themselves together and by complying with the law be incorporated, and have granted them the power to confer the degree of M. D. on any person they may wish. In this grant of power, the State has neglected to protect itself from incompetent teachers, by not requiring that they be learned in their profession, nor does it protect the citizens, since it does not require a certain amount of medical knowledge of each student before the degree of M. D., shall be conferred upon him. We want the protection of the citizens from incompetent men, thereby increasing our obligation to graduate none but competent students. The same is true in the other states. Therefore, the degree of M. D. has no fixed value but simply represents the ideas or interest of the teachers who confer it. Hence, it does not command the respect it should." Of the journals read by the routinist, he has none save those sent by some enterprising drug house gratis, and which contain accounts of new remedies and are filled with prescriptions of "*old retired* physicians, guaranteed by the certificate of considerate clergymen." These he copies in his daybook and carries in his pocket for ready reference. He does not hesitate to prescribe "Harter's iron tonic," "Hembold's buchu," or any other nostrum he may find in these *gratis* journals.

Dr. Lutz reports a case of gastrototomy with many interesting physiological as well as surgical points. It was found that stomachic digestion was greatly aided by previous mastication and insalivation. Therefore, all the patient's food, both solid and liquid, was first masticated and then passed by a rubber tube through the fistula into the stomach. The operation was performed on November 15, and the patient survived until July 2.

Dr. King pleads for the bath in fevers. He uses a Knowlton's rubber bath, and has the water at from 90° to 80° for children, and from 90° to 60° for adults, according to age and severity of symptoms.

Dr. Todd calls attention to the fact that asthma is sometimes due to nasal polypi, the removal of which is followed by relief of the asthmatic difficulty.

Dr. Lee reports two interesting cases of spontaneous version and involution in shoulder and arm presentation. In the first case, the doctor found a shoulder presentation with ultimately a descent and protrusion of an arm. Seeing the case was to be a difficult one, he gave a heavy dose of opium and sent for aid. After two or three hours, pains again came on, when an examination showed that the arm had been withdrawn and the head was presenting. In the second case, the presentation was changed as often as three times.

From the report of the committee on medical education, we judge that some members of the association do not consider the rapid multiplication of medical schools in the state as likely to advance thoroughness of study. Well may there be danger when eight medical schools, seven of which are dependent for support upon the fees of students, bid for favor in Missouri.

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(4) Alabama has probably the best organized State Medical Society in our country. All the local societies are subject to the State Society and by this complete organization the profession has been able to accomplish more in the way of medical legislation than has been done in most States. President Anderson's address is replete with suggestions of value. Nearly thirty years ago, Dr. Anderson, as chairman of the committee, on medical education in the American Medical Association, recommended that the granting of degrees with license to practice by colleges should be discouraged by the Association, and that such power should be delegated to a national board, appointed by the association, and which should sit for several weeks annually at the national capital. Had something of this kind been done the standard of our profession would have doubtlessly been much higher to day than it is.

In accounting for uterine hydatids, Dr. Seelye ventures, "the theory that from some peculiar dyscrasia, either in the mother or father, the product of conception is not endowed with sufficient vitality or energy to perfect the work of nutrition. In consequence the proliferation of cells by which the intra-uterine growth is normally affected is arrested, and the parent cells instead of developing new nuceli which may in time grow to perfect cells, fall short of this part of their functions. They grow and increase in size by imbibition of the surrounding fluids, but fail to develop into perfect cells with contained nuclei which inturn by segmentation multiply themselves into perfect cells. Hydatids are then dropsical cells of the chorion, which were not endued with sufficient inherent vitality to enable them to perfect their work."

Dr. S. uses pure carbolic acid injections in internal hemorrhoids, prefering the pure acid to that diluted with glycerine. The amount of acid is regulated by the size of the tumor.

Dr. Huestis prevents hemorrhage when performing the operation of circumcision by rolling back an India rubber ring, of sufficient tightness, to the root of the penis, the pressure of the ring forcing out the blood and preventing the loss of a single drop during the operation.

Dr. Fort, after failing in difficult labor to dilate the os by digital manipulations, injects with hypodermic syringe into the os from one-sixtieth to one-hundredth of a grain of belladonna (atropia?). He uses fluid extract of viscum album instead of ergot as an exytocic. For after pains he uses potassium bromide and morphine, and condems the tendency among physicians to give nothing to relieve these pains.

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(5) For varicocele, Dr. Boyne "makes a simple incision with antiseptic precaution through the scrotal walls, exposes a single enlarged vein and ligates it with catgut or the finest thread of silk thoroughly carbolized, preferably the former. In either case the ligature is cut short and left to take care of itself—the catgut is absorbed, the silk encysted. The after-dressing is the Lister gauze. This operation is repeated at suitable intervals until all the varicose veins are obliterated. So far, these proceedures have been unaccompanied by inflammatory reaction and have been practically free from distress."

As to removal of pacenta in cases of miscarriages, Dr. Crummer gives the following instructions:

"(*a*) One index finger introduced into the womb while the organ is depressed well into the pelvis, and steadied by the other hand applied externally. In this way a moderately contracted os may be dilated, a sharp anteflexion of the uterus straightened, and, using the finger as a hook, the uterus may commonly be thoroughly emptied.

"(*b*) With one or two fingers in the vagina for counterpressure against the anterior surface of the womb, and the other hand making firm pressure over the fundus and posterior surface of the uterus, the contents of the womb may sometimes be pressed out. These procedures, though somewhat painful, do not require an anæsthetic. But we must confess that in a certain proportion of our cases they do not succeed. Very often the detached afterbirth can be just felt at the tip of the finger or glides from it in any effort at extraction. We may then resort to:

"(*c*) The introduction of the hand into the vagina and one or more fingers into the uterus, and this requires an anæsthetic.

"(*d*) In some cases where the vagina is small, or anæsthetic not desirable I have succeeded admirably with Loomis placenta forceps in grasping and removing the offending substance."

Dr. F. C. Hotz thus sums up the evidence as to the value of homatropine as a mydriatic: "It enlarges the pupil and paralyzes the ciliary muscles as quickly and thoroughly as an equally strong solution of sulphate of atropia; but the effects of the homatropine upon the eye disappears entirely in twelve to twenty-four hours, while the effects of the atropine continues for many days, and while it lasts disables the patient for reading and writing." For this reason homatropine is preferable when temporary dilatation of the pupil is desired.

Dr. Maynard states that ringworm of the scalp in children is often obtained from the lower animals. In the treatment of the affection isolation is necessary to prevent its spread. In boys the hair should be cut close, with girls this is necessary only when there are several patches. The scabs should be removed by soaking with one part of sulphurous ond to four of water. After thorough cleansing one of two classes of remedies may be selected:

(*a*) Those that act on the parasitic growth by causing severe inflammation; as cantharides, glacial acetio acid, tincture of iodine and chrysophanic acid.

(*b*) The milder and so-called parasiticides, as sulphur, sulphurous acid, carbolic acid, tarry preparations and mercurials. The stronger applications are used only where there is a simple patch or a number of very small ones.

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(6) To our mind President Bailey gives the true cause of so many *isues* or *schools* in medicine. It is duce to the fact that so many meh enter our medical colleges without any adequate preliminary education, and without habits of study. The great value of a thorough literary course is not so much in the facts learned as the mental discipline acquired.

Dr. Hamilton in a paper entitled "facial hairy growths in insane women," comes to the following conclusions:

(*a*) Abnormal growth of hair, especially upon the face, is frequently closely connected with disturbed function of the pelvic organs of women.

(*b*) That in the insanity of women, especially when it lapses into dementia, and cutaneous nutritive changes exist, such growths of hair are by no means of uncommon appearance.

(*c*) That their unilateral character, so far as preponderance in growth is concerned, and their association with unilateral cutaneous lesions, such as bronzing and nail-changes, indicate their nervous origin.

(*d*) Their appearance chiefly upon the face of insane patients, and relation to trophic disorders incident to facial neuralgia, points to the fifth nerve as that concerned in the pathological process.

(*e*) The development of hair with the deposit of pigment and skin lesions, and occasional goitrous swellings suggests the inference that the neuro-pathological process which leads to the growth of hair in the chronic insane, is akin to that which gives rise to Addison's disease.

Dr. Bulkley uses for depilation in favus sticks made from the following mixture:

℞	Ceræ flavæ	ʒiij	
	Laccæ in tabulis	ʒiv	
	Resinæ	ʒoj	
	Oicis bergundicæ	ʒx	
	Gummi dammar	℥jss	M.

After the ingredients are thoroughly incorporated, the mass is rolled into sticks of various sizes, from one-quarter to three-quarters of an inch in diameter and cut off in lengths of two or three inches each. The hair should be cropped short, about an eighth of an inch long, over the part to be treated, and the sticks, slightly melted by an alcohol flame, are applied with a slight rotary motion to work the short hairs into its substance. It is to be left on for several minutes—the longer the better—and is removed by bending it over and drawing the hairs in succession, even with a slight twisting motion. The pain is considerable but not so great as would be supposed. If the surface to be treated is large, a number of sticks may be applied at one time. Dr. B., has used this method of depilation in six or eight cases.

Dr. Mathewson recommends the transplantation of large peices of skin to relieve the contractions caused by burns. His method of proceeding is as follows: "Free the contracted part by dissection; measure the size of the gap thus formed by laying a piece of paper over it and cutting to exact size and shape, and placing this as a guide on the part from which the transplantation is to be made, a surface nearly a third larger, but varying according to thickness and retractility, is circumscribed by the knife; this is then rapidly dissected off, but with care to take as little of the subcutaneous tissue as possible, laid in the gap to be fitted, held in place by thin transparent plaster, fastened at its edges by collodion, and kept warm and under pressure by a bandage. In the cases I have had an opportunity of watching no sutures were used except that in my own case (reported in this paper) there were two used at the ends of the elliptical piece, but with no special advantage."

Dr. Potter gives the following principles which should govern the surgical treatment of epithelioma of the cervix:

(*a*) "There should be no delay in the adoption of prompt surgical interference as soon as the true nature of the malady only becomes known to the medical adviser. The sooner the operation is made the better, the greater are the chances of success.

(*b*) "Great care should be exercised in the operation, lest some of the diseased portions are left behind. Total extirpation should be the aim, and it should be accomplished as nearly as the circumstances of the case will permit.

(*c*) "After removal of the diseased growth, the raw surfaces should be most thoroughly cauterized, to the extent that a slough of considerable depth be produced. The potential cautery is preferable for this purpose. If the actual cautery be used, Paquelin's should have the preference.

(*d*) "The frequent use of warm, antiseptic vaginal irrigations constitutes a most essential part of the after-treatment, and, under no circumstances, must this important factor in the life-saving problem be neglected, or used with indifference.

(*e*) "The patient after recovery should be instructed to present herself for examination at short intervals, and, if the disease should reappear, the sprouting granulations are to be promptly removed, and the freshened surface cauterized as before.

(*f*) "In cases well advanced in which there is no hope of ultimate relief an operation may still be justified on the ground that it affords the best means of palliation.

(*g*) "The Sims mode of operating appears adapted to the largest number of cases and by reason of its simplicity, thoroughness and greater safety, commends itself to the confidence of the general practitioner as well as the specialist."

Dr. Warren concludes an excellent paper on "Hystero-neurosis of the Stomach" as follows:

"The treatment, then, of the vomiting in pregnancy resolves itself into the correction of all disturbances, functional or organic, as far as possible, which are known to excite dyspeptic symptoms, before a simple irtitation becomes a confirmed gastritis and the stomach refuses to receive the remedies most appropriate to relieve the original trouble.

"Among these, oftener than any other, the emotional element and a constipated habit with its attendant flatulence and other discomforts, accompany the pregnant state and should receive early and prompt attention.

"For the relief of the former, no remedies equal in efficiency at this time, the bromides of sodium and potassium exhibited in full doses; and here it may not be amiss to state, that in order to secure their *full effect* these medicines must be administered at the proper time, generally late in the day or at bedtime and when the stomach is empty.

"The constipation can be overcome by any simple laxative, as compound liquorice powder, or any other harmless medicine or formula, or, if obstinate, copious and repeated enemata of tepid water will unload the rectum of the hardened fæces or scybala which so frequently occur in women.

"Finally, when all other causes are excluded, the constipation relieved and the emotional element controlled, and when we come to consider the purely sympathetic disorder following conception; in short, when we have to deal with the uncommon vomiting, due simply, and solely as far as we can see, to the impregnation of a healthy uterus in a healthy woman, I have found many of the remedies which have been called specific to sometimes relieve, but oftener to fail.

"But the one remedy which in my hands has before all others proven the most efficient for alleviating the distress, if not for curing the complaint, is Fowler's solution of arsenic, administered in drop-doses upon an empty stomach. When thus given, and with a restricted diet, it has seemed to me to come nearer a specific for this neurosis than any other. Indeed, the effect is at times almost magical, and when continued for a considerable period, and given in larger doses when the stomach contains food, affords, in my opinion, a nerve tonic highly essential to women in pregnancy, and which no other remedy can equal or approach.

"Frequently, however, after its continuance for a considerable time, benefit comes from suspending its use and substituting the nitro-muriatic acid with tincture of nux vomica, particularly if there be any inactivity of the liver or kidneys, or if anorexia exists."

Dr. Stiles gives the following device for retaining dislocations of the distal end of the clavicle:

"Putting the bone in position, a plaster cast was taken of the parts, about four inches long and two and seven-eighths inches wide (ten centimetres by 7.2 centimetres). (It is necessary to oil the part before applying the plaster). I took the cast to Dr. Downs, a dentist, and requested him to make a hard rubber plate from the cast in the same manner as he would make a plate for a set of teeth from a plaster cast of the mouth, making it about three thirty-seconds of an inch (two and one-third millimetres) thick. I explained to him what I wished it for, and he succeeded very nicely. When it was finished I applied a piece of lint to the under surface of the splint and placed it on the clavicle, and found it a perfect fit. I then attached to the outer or upper surface of the splint two strips of strong adhesive plaster, about fifteen inches long (thirty-eight centimetres) (and the width of the two strips nearly covering the splint) which I applied to the posterior part of chest. I then applied two more strips over those already applied, but extending in the opposite direction and diverging somewhat, and to the lower ends of these strips I fastened two rubber bands, about three inches (seventy-six millimetres) long and three-fourths of an inch (nineteen millimetres) wide (the bands can be obtained at any book-store), and to the lower ends of the bands I fastened pieces of adhesive plaster with broad bases, making sufficient traction to hold the bone in place. The last mentioned pieces of plaster were firmly fixed to the anterior part of the chest. A small roller was placed in the depression of the splint above the clavicle, and then another piece of plaster about three inches (seventy-six millimetres) wide was applied from before backwards over the roller and brought up over the roller and down on the back and closely applied. The forearm was placed diagonally across the chest, and retained with adhesive strips and a few turns of the roller, and the dressing was completed.

"The result was all that could be desired; there is perfect freedom of motion of the arm, and it can be put directly up beside the head as well as its fellow."

SELECT FORMULÆ FOR INGROWING TOE-NAILS, SWEATING FEET, OFFENSIVE PERSPIRATION, BURNS AND SCALDS, AND HEADACHE.

L. H. Washington, M. D., contributes a series of well compiled formulæ for these several troublesome affections, to the *Saint Louis Eclectic Medical Journal*, October, 1881:

Ingrowing Nails.—For this troublesome and exceedingly painful affection, a saturated solution of persulphate of iron is recommended. A bit of cotton wool saturated with this is insinuated between the fungous flesh and the nail, letting the cotton turn back over the flesh on the outside also. Much of the success depends on the thoroughness with which the cotton is pressed to the bottom or edge of the ingrowing nail.

Caustic potash, two drachms; water, one ounce. Mix. Apply twice a day. This soon causes the granulated surface to recede, and then by inserting a wedged-shaped piece of cork, the cure is completed.

Cut a notch about the shape of V in the end of the nail, about one-quarter the width of the nail distant from the ingrowing side. Cut down as nearly to the quick as possible, and one-third the length of the nail. The pressure of the boot or shoe will tend to close the opening you have made in the nail, and thus affords relief. Allow the ingrowing portion of the nail to grow without cutting it until it gets beyond the flesh.

To keep the flesh from the nail will effect a cure. A strip of lint covered with simple cerate may be carefully inserted between the nail and flesh. But prompt recovery will most generally attend the use of collodion, painted over the sore part with a camel's hair brush.

Make a bridge of muslin from the great toe to the third, and allow the middle toe to rest on this bridge; this effectually removes the pressure from the great toe, and the parts eventually get well.

Do not remove any portion of the nail; let the patient wear a roomy shoe; once or twice a week scrape the entire surface of the nail lightly, pack a bit of cork or pledget of lint, by means of a fine knife blade, under the corner of the nail, and let the entire nail, corners included, grow out clear of the toe, when it may be trimmed by cutting it off square. With a little patience and perseverance a radical cure may be expected.

After trimming the nail so as not to wear the stocking, scrape a narrow strip on the top of the nail from the skin to the front edge, as thin as possible; then cut a V shaped piece in the center of the edge, with the point of the V running in the thin scraped place just far enough not to draw blood. This, repeated once a week, has proved a permanent cure in every case tried, and has the advantage of being done by the patient at home.

Sweating Feet.—If the case is not an aggravated one, bathing the feet daily with alum water may lessen the secretions.

The following powder is a great preventive of perspiring and sore feet: Salicylic acid, three parts; starch, ten parts; powdered soap-stone, eighty-seven parts. Mix. Apply dry. If walking, use daily; otherwise every two or three days. It takes off the irritating influence of the perspiration, and prevents, in consequence, the soreness. Powdered anise-seed is similarly used in hot weather.

Offensive Perspiration.—Recipe. Permanganate of potash, one and one-half drachms; water, one pint. Mix. Put a tablespoonful of this in an ordinary foot tub, about one-fourth full of warm water, and bathe the affected parts three times a day at first; after several days, once a day. Dust with potato-starch or lycopodium after carefully drying.

Pure water, one quart; tincture of myrrh, one ounce; sulphate of zinc, one-half ounce; rose water, two ounces. Mix. Sponge the parts occasionally.

Chloral hydrate, one part; water, one hundred parts. Mix. Wash the parts with this twice a day, and keep them enveloped in compresses wet with the same.

Burnt alum, five drachms; salicylic acid, two and one-half drachms; wheat starch, fifteen drachms; powdered soap stone, six ounces and two drachms. Mix. Dust on the feet and in the stockings daily. May also be used for the armpits and groins.

A solution of common soda freely applied to the armpits, feet, etc., will often remove offensive perspiration.

Salicylic acid, bromide of potassium, ten grains of each; cosmoline, two ounces. Mix. A few bathings and annointings with this will correct the unpleasant odor.

The hypodermic injection of nitrate of pilocarpin has been found to relieve fetid perspiration of the feet.

Tincture of eucalyptus, one drachm; chloral hydrate, one drachm; water, one pint. Mix. Sponge the parts occasionally. This is an excellent deodorizer.

Burns and Scalds.—Camphor, tannin, each one part; sulphuric ether, eight parts. Mix. Apply every three hours. This is very efficacious in burns of the first or second degree; the heat disappears rapidly, and blisters do not form.

Collodion, two parts; olive oil, one part. Mix. Apply to the burn. Very efficacious in burns of a superficial character.

A very neat and satisfactory dressing in superficial burns consists in coating the surface with mucilage, and then covering with powdered lycopodium.

The following is a favorite lotion for burns at the Charity Hospital, New York: Sulphate zinc, fifteen grains; componnd spirits of lavender, one ounce; water, one pint. Mix.

The following is one of the best applications for burns or scalds, more especially where a large surface is denuded of the skin: Recipe. Finely powdered alum, one drachm, and mix thoroughly with the white of two eggs and one teacupful of fresh lard; spread on a cloth and apply to the burned part. Change the application at least once a day. It gives almost instant relief from pain, and, by excluding the air, prevents inflammatory action.

The sudden relief of the pain of burns, which attends the application of a solution of the Frehch chloride of soda, one-half ounce, in a quart of water, is truly astonishing. Apply by means of cloths dipped into it and kept wet. If it fails to give relief, you may suspect the impurity of the soda, or that the solution is too strong. If its antiphlogistic effects be desired, it must give no pain when applied.

Recipe. Yellow wax, one ounce; linseed oil, three ounces; tannin, one drachm; subnitrate of bismuth, one scruple. Heat the wax, add the oil, and stir; when cold, add the tannin, and lastly the bismuth. Apply on soft cloths.

Anything that excludes the air, and is unirritating, will answer as an application for burns. Common flour dusted thickly over the burnt surface is very soothing. Linseed oil on cotton batting, and occasionally moistening the first application of cotton, without changing, is a remedy equal to any. White lead and linseed oil mixed to the consistency of cream (white paint), applied with a soft brush and covered with cotton batting is unsurpassed.

In the treatment of burns or scalds observe the following rules: (1) Remove the clothing by cutting it from the body; (2) Wrap the patient with blankets; (3) If the pain be excessive, administer chloroform, ether, or a large dose of opium, and let the necessary dressing be made while the patient is in a state of partial or total insensibility; (4) After this, wrap the patient in masses of cotton batting; (5) Avoid brandy or other alcoholic drinks, and give coffee as a stimulant.

Headache.—In severe nervous headache, one grain of creosote taken in a cup of clear, strong coffee, is often speedily effectual.

In sick headache, heart-burn and acid stomach, about forty drops of aromatic spirits of ammonia, taken in a wine glass of water, will frequently afford quick relief.

Persons who do a great deal of brain work are often the subjects of fierce headaches, due to hyperæmia of the nerve substance within the cranium. Tincture of pulsatilla in drop doses every two to four hours in a tablespoonful of water has been found of great service in such cases.

Oxalate of cerium, about three grains, taken dry on the tongue, sometimes acts like magic in relieving sick headache. The dose may be repeated as often as necessary.—*Virginia Medical Monthly.*

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ORIGINAL ARTICLES.

WHAT CAN THE LAW DO FOR THE HEALTH OF THE PEOPLE?*

BY JUSTICE T. M. COOLEY, LL. D., ANN ARBOR, MICHIGAN.

Sanitary science has vital interest for every member of the community. In a measure we commit the care of our health to a profession who make the science their study, but to a much larger extent our health is and must be our own care. If we would preserve it, we must know something of the laws which affect the health, and we must take care to obey them. No physician can shield us against the consequences of our own imprudence; he may perhaps mitigate the evils and save us from fatal results; but the penalties of a disregard of nature's laws can never be wholly escaped. Our personal comfort and safety, therefore, demand perpetual vigilance to guard against disease, and for the most part every man must be his own protector.

In some directions, however, health is exposed from causes which render the interposition of the State essential, because individual care and precaution would be inadequate to full protection. This is often the case when diseases prevail over a large field, so that organized action is necessary to interpose obstacles, and perhaps even the employment of force to suppress dangerous practices or to stop the movements of commerce when contagion accompanies it. Sometimes, also, individual imprudence threatens more than individual injury, so that for various reasons the question often presents itself: *What can the law do for the health of the people?* It is to that question I shall briefly direct your attention now.

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*A paper read at the State Sanitary Convention held at Ann Arbor, February 28 and March 1, 1882.

To many persons, probably the question I have stated will appear at first of theoretical rather than of practical importance, for until one has given the matter some thought, he is very likely to have an impression that the sphere of law in the domain of sanitary science is very narrow and very unimportant. In truth, however, the control of the law in some directions is very extensive and very imperative; and if it is not also beneficial, the State must be exercising extraordinary powers without any adequate justification. The case of quarantine laws may be taken as an illustration. Every country in the civilized world adopts and enforces such laws; and some evidence of salutary results to justify them is found in the fact that the tendency to strengthen and extend them increases as nations increase in civilization, humanity and general intelligence.

But the evidence of the benefit of these laws is not solely inferential: there are some very positive and very striking proofs. Among these we might instance the entire cessation of those frightful and devestating calamities which, under the name of plagues or sometimes of black death, were frequent in Europe until within the last two hundred years.

It was formerly supposed, when such a calamity swept over the land, that the Supreme Being was angry for the sin's of the people, and that the disease was a special visitation of an offended Providence. The source of the affliction being thus determined, the remedy was sought in prayers and votive offerings; and when the disease had run its course these were supposed to have availed. But from time to time enlightened physicians who were in advance of a superstitious age, began to investigate in a scientific spirit the causes of the disease, and had no difficulty in discovering those which were abundant in the violation of the most simple and most imperative laws of health. The path of the pestilence was generally traced backward without difficulty to the low and marshy grounds in the region of the Mediterranean and Black seas, where in a hot and miasmatic atmosphere the people live in low and crowded, or badly ventilated abodes—allowing vegetable and animal matter to accumulate about their dwellings, drinking from wells or fountains into which the water filters through the accumulated filth of ages, and prepared by their scanty precarious fare to fall victims to the diseases which their vices and their disregard of sanitary laws are certain to breed. From Egypt, Tripoli and Turkey, the pestilence followed in the track of commerce or of war over the Continent of Europe; in every city it found the conditions rife for its reception; for vice was everywhere, and filth and houses stifling with pestilential breath, and so from land to land the pestilence moved on in its desolating course. In 1665 London was almost depopulated by the disease and by the terror it created, and Moscow and some other cities in Eastern and Southern Europe were devastated by it still later.

Another scourge equally fearful has been the Asiatic cholera. The source of this disease was long a mystery, but it has been very satisfactorily traced in modern times, and the causes are found to be not only abundant, but readily understood and appreciated. The immediate occasion for a thorough investigation was the appearance of the disease in its most malignant and destructive form in an English Army in India, in the year 1781. This was shortly after one of the great periodical festivals near the temple of Juggernaut, and the army had encamped upon the ground which the pilgrims had recently occupied, and had drank from their wells. The ground was of course reeking with filth; the water was of course deadly with poison. Discovering a sufficient immediate cause for the visit of the disease on that occasion, the physicians pushed their inquiries further, and had no difficulty in satisfying themselves that every recurring festival of the sort originated the same disease, and that when the pilgrims departed for their homes, the cholera started with them on its journey around the world.

The cholera which caused such havoc in this country fifty years ago originated at Hurdwar, a place of pilgrimage at the source of the Ganges, where it is said not less than three million people were accustomed to assembled every twelfth year. From there it was carried by the returning pilgrims until it encountered the caravans of commerce, and by them was spread slowly but surely over the whole of Asia and Europe. In the third year it reached Astracan; in the fourth it made its appearance in the armies of Poland and Russia, and in the Russian seaports, whence it was carried in coal vessels to England; in the sixth year emigrant vessels conveyed it from the British Islands to Quebec and Detroit, and it soon spread over the Western Continent. Every step is easily traced, and at every step stringent police regulations enforced by adequate power might have arrested its progress.

The epidemic has ceased to be alarming, in part because with the extension of British rule and British ideas in India, the great religious gatherings diminish in size and unwholesome nature; in part because the disease is better understood and handled, and in part because quarantine regulations are very strictly enforced against it. But that the occasions for vigilance are still abundant is evident from what has occurred during the last year. From time to time we heard through the public journals that cholera was prevailing among the pilgrims to Mecca, and that the mortality was so great among them as to convert their religious fervor into a panic. Competent men, believing that a special cause must be discoverable, instituted an investigation, and easily found the cause in the holy well from whose waters all had drank. This well is never cleansed, and drinking from it is like drinking from the sewers of a great city. Nothing but the fanaticism of the most uncompromising ignorance could ever induce a human being to imbibe its poisons.

If the plague has been checked and the cholera stripped of half its horror, the same is true to a great extent of the yellow fever also. Formerly it visited all the Atlantic and Gulf seaports of this country, and was sometimes destructive in them all; now the stringent regulations of quarantine give a protection against it which is very near complete. It made sad havoc in Memphis in the year 1878, but there were special reasons in the bad condition of the city; and some other towns suffered which long immunity from the scourge had made neglectful of precautions.

It is highly probable that new demands for quarantine laws will arise from time to time, growing out of new conditions, and that it will be necessary to bring within their scope beasts as well as persons; especially all those beasts which are made the food of man. One very urgent necessity has recently arisen in the case of cattle affected by pleuro-pneumonia. This disease which has caused such destruction among the cattle of the country is found to be communicated by contact, and it seems highly probable that no sure method of checking it will be discovered except the unhesitating destruction of every beast that has been exposed, and a rigid prohibition of any export of cattle from districts where the disease has prevailed, until it is certain that the danger of contagion is altogether past.

It is not likely that any participant in our deliberations will question the propriety of quarantine regulations, or their importance in impeding the spread of diseases like those that have been mentioned. There is an impression with many, however, that it is only when large districts of country are in question, that the government may rightfully interfere; and that the sanitary affairs of neighborhoods and households must be left to those whom they immediately concern. There is an instinctive and traditionary prejudice among people of Anglo-Saxon descent against the interference of the government in their neighborhood and domestic interests, and one reason why they implicitly accept their existing government as the best in the world is because that of all governments the people feel its presence the least. Domestic sanitary regulations seem to many like domestic sumptuary regulations; which can justly and rightfully emanate only from those whom they concern, and must constitute a part of their rightful pursuit of happiness in their own way.

It must be conceded, however, that the power of the government to establish local and domestic sanitary regulations is just as complete and perfect as its power to enact quarantine laws. Both classes of regulations have the same general object in view, and are supported by the same reasons. If a man who has been exposed to yellow fever or who comes from an infected port may be refused landing at New York lest he carry contagion into the city, the children attending the public schools may be refused admission until they submit to inocculation as a protection against contracting and imparting to others a disease as deadly as the yellow fever and quite as unmanageable. It is the same power that is exerted in both cases; we are familiar with its exercise in the one case and not in the other, and from thence come the different impressions respecting it.

In all directions the limit of individual liberty is reached when the action of the individual threatens injury to others or prejudice to the State. Individual rights rest upon reasons which conduce to the general welfare; and no man can claim a right as against the State to make his premises the breeding ground of disease. No man when he is in condition to contract and communicate a contagious disorder against which it would be practicable to provide, has any privilege to move about among his fellows without first taking the precautions which would afford protection. The principle that every man shall be at liberty to manage his business and personal concerns in his own way is of priceless value, but the exceptions to it are as undoubted as the principle is clear. Even a man's beast is found to be within the protection of the law if he undertakes to treat him with cruelty, and there is no business that the State may not supervise with a view to the general good. A short time since the world was startled and shocked by the great calamity in Vienna, where hundreds of people became the victims of a fire in one of its places of amusement. What advocate for individual liberty will be bold enough to deny to the State the power to require that every manager of a place of public amusement shall submit his premises to proper inspection, and shall observe such precautions as the public authorities may find needful to protect against similar calamities? A few years ago many persons in the State of Michigan were disposed to complain, because they were required by the State law to take from their hinges the doors of the churches and public halls, and to make them open outward instead of inward as they formerly did. It seemed a useless regulation; but a single calamity like that which recently occurred in Illinois, in which, under the phrenzy of a panic in a church a considerable number of women and children were trampled to death, is amply sufficient to justify the wisdom of the Michigan law. But the right of State intervention is by no means limited to the case of buildings of this semi-public character. If one proposes to erect a tenement building, the State may with abundant reason insist on inspecting his plan, to make sure that it contemplates the necessary strength and security, and means of escape in case of fire, so that tenants shall not, under the name of a dwelling, be invited into a man-trap.

The complaints of State intervention in sanitary matters are likely to range themselves under the following heads:

(1) That they needlessly and oppressively invade the domain of individual liberty.

(2) That the regulations are likely to be committed for enforcement to unintelligent persons who are mere place-holders, and who only care to make their posts profitable.

(3) That the confiding of sanitary matters to public officers who habitually neglect or ignorantly perform their duties, tends at the same time to relax the vigilance of individuals, so that the general result is that an expensive sanitary service is, on the whole, productive of little or no benefit.

To some extent, perhaps, we may all sympathize in these complaints. It is true that the sanitary service in all our cities is imperfect, and that its agents are often arbitrary in their dealings with individual rights. But it is a trite saying, that the abuse of a power is no argument against its existence. No government service, unfortunately, is perfect; no society is managed with absolute justice and equity; no church in its ministrations is absolutely pure. Everything human must be taken with something of human imperfection; and this is especially true of sanitary laws and sanitary administration, for these deal with matters in respect to which there is still great ignorance among the people in general, and we must confess, also, no little bigotry among those who claim to be experts.

That sanitary science can only be imperfectly understood by the most of us, we must concede. The causes of disease are numerous and occult, and to trace them is the sufficient study of a life time for able and thoughtful men. One who would understand them needs to be broad in his culture, careful in his investigations, of a judicial habit of mind, and uncontrolled by prejudice. If he thinks he has mastered his subject, he is likely to be occasionally surprised by the appearance of diseases which are not to be accounted for on any accepted theory. It will then become necessary that he review and revise his conclusions, or that he look about him for new and unexpected conditions of things.

When sanitary regulations are established, we have a right to assume that they represent the most enlightened thought in the community on the subject at the time. This will not always be true; but this will be the aim of those who establish them, and the instances will probably be very rare in which the regulations established by the public authorities are not better than none at all. It will, besides, be the business of the sanitary force to give more attention to the causes of disease and the methods of obviating them, than can be given by persons absorbed in private business; and the performance of this duty will enable them to gather a great store of valuable facts from which we all may profit.

It is often said by physicians and by others, that the diseases of their part of the country have greatly changed within a generation, and that new types have made their appearance. When that is the case, we ought to be able to learn the causes. There is nothing capricious in nature, and every change must have its sufficient reason. It was formerly supposed that intermitrent fevers were peculiar to certain districts—to low, marshy lands, or to countries where much new soil was being exposed to the sun; but all at once we find New England shaking with the ague, and the disease assumes a peculiarly obstinate and unyielding type. What does this mean? Hilly and sterile New England ought to be eminently secure against such invasions; and so it has seemed to be in the past.

It may be very safely affirmed that no such disease springs up among the people unless new conditions supply the occasion. In unchanging New England, new conditions are not much looked for, but they come as they do elsewhere, and perhaps when least expected. If New England physicians—some of whom now affirm that the causes of ague are little known, and are unwilling to concede that there are local causes in their section—would take occasion to study the disease in the neighborhood of the mill-dams of the west, they might perhaps come to know that it is impossible alternately to flood by mill-dams and then expose to the sun considerable tracts of land, without producing the miasma on which the ague feeds. If New England gathers great numbers of persons into tenant houses, works them in crowded manufactories, from which they emerge at night into an atmosphere loaded with the exhalations of mill-ponds, New England must pay the penalty which these conditions demand. There is many a mill-dam in the country whose annual cost to the immediate neighborhood, in medicine, physicians' bills, and loss of effective time and energy for labor, is far beyond its whole worth; so that it may be said to be maintained at the expense of the people, to blight their health and destroy their powers. A feeling of the sacredness of vested rights in property saves many of these from destruction which ought long since to have been torn away; and the time will doubtless come when we shall wonder that we endured their evils so long and so patiently.

Many of the most serious causes of disease are now to be looked for where formerly they were not to be found, and where many people will not suspect their existence. The spring or the well has been with mankind from the earliest ages, the synonym and representative of purity and health, and the dearest associations of many of us have clustered about the old homestead where the old oaken bucket was the most cherished of insensate objects. The water filters into the well through the purifying soil, and if periodically we remove from the well whatever may have accidentally fallen in, we receive the draught from the bucket as a health-giving and health-preserving beverage, and thank a bountiful Providence for giving it in abundant supply. But if the water trickles pure into the well, it must be because the earth receives and retains whatever in it is impure, and it cannot do this forever without becoming saturated to a point at which, instead of retaining impurities, it will permit the water to carry off those already in it. No periodical cleaning out of the well into which the water then filters will save the water from being poisonous. If a family for a quarter of a century has been accustomed to cast the slops of the kitchen into the back yard, two or three rods from the well; if a privy vault without exterior drainage is within convenient distance; and the pigpen, henhouse and barnyard as near to the house as is customary to bring them; the physician, when typhoid fever or some kindred disease makes its appearance in the family, if he is sufficiently intelligent to look beyond the symptoms for the causes, ought to turn his first attention to the excavation from which the family receive the constant beverage, but which is so well calculated to be a cesspool for kitchen, privy, pigpen and stable. There is probably not a city or a village in the State which has not within it wells which, for the reason indicated, ought long since to have been condemned and filled up. Fevers sometimes go through a family, taking off one member after another, and the unsuspected water of a foul well is both the original cause of the disease, and the insuperable obstacle to a recovery.

Boards of health have large powers in all these matters, and the danger is not so much that they will abuse their powers, as that they will fail to exercise them. There ought to be very much more intelligent inspection of private grounds and buildings than there is. It is, no doubt, an invidious task for members of sanitary boards to assume to do this without invitation, and generally they should have it taken off their hands by the family physician, if there is one. And I think a layman may well venture to express the opinion that physicians are not always sufficiently mindful of the duty to look beyond the disorder for the causes, and that in many cases they prescribe pills and powders for diseases which they find obstinate, when if they would carefully inspect the surrounding conditions they would find continuing causes which pills and powders cannot reach, but which ordinary care and attention to sanitary laws would easily and perfectly remove.

Some causes of disease are especially mischievous, because they not only infect the body, but the mind and morals also. With some of these the sanitary officers can do but little; they come more properly under the jurisdiction of those to whom is committed the administration of criminal law. It is greatly to be regretted that it is not as easy to organize and excite public sentiment against the evils of prostitution at our very doors, as it is against the kindred evils of polygamy in Utah; for a little vigorous effort in the suppression of the one would add greatly to our moral force and confidence when we move against the other. Sanitary boards ought to be more active than they are in this regard. both in inciting the officers of the law to the performance of their duties, and in seconding their efforts when they do act. A slaughter house in a populated neighborhood is often mischievous beyond the direct effect upon health, in the brutalizing influence upon children and others who witness its spectacles or hear its noises. I commend this subject especially to your notice.

One of the most urgent needs of the day is a better understanding of the subject of ventilation. We all breathe poisoned air more or less; some of us in our homes, day and night; some of us in social visits with our neighbors; and nearly all of us when we congregate in public halls, court houses and other public buildings. The extent of this poisoning is incredible to every man who has not fully investigated it. A few years since, the officer in charge of the senate rooms at Washington made the startling statement, that when the senate room was crowded on occasions of great debates the air that passed off through the foul air duct was so poisonous that a rat could not live in it. His accuracy was questioned, but actual experiment proved the statement true. A trap with a rat in it was shut into the foul air flue on an occasion when the senate chamber was crowded, and in a few minutes he was dead. In the room from which this flue drew off the poison, the people were kept alive by the constant introduction of fresh air; but hundreds of public buildings have no adequate provision for conveying away the bad air, and some of them none at all. It will not be difficult, it is believed, to find public buildings where the ventilating flues seem to be ingeniously constructed to gather the foul air inside and retain it, instead of permitting it to pass away. Many of our builders are totally ignorant of all that pertains to ventilation, and they construct dwellings for us as though the main purpose was to exclude the fresh breath of heaven and let in the foul gases of badly constructed sewers and unsuitable water-closets. And people live in such dwellings, and wonder why it is that they suffer so from headaches, and are so subject to fevers and general debility.

The sphere of sanitary inspection and regulation is likely to be much greater hereafter than has been occupied hitherto, not only because the occasions for interference will be more numerous, but because our greater understanding of sanitary needs will make the necessity more obvious. The time will probably come when we shall adopt, to some extent, new views respecting individual rights, and when the State will deny to the individual that absolute control over himself to his own prejudice which he is now permitted to exercise. There is no law at the present day to prevent a man destroying his life by vicious habits, if he will only limit his indulgences to his own premises and not disturb the public with them; and it was only the other day that a young woman starved herself to death, deliberately and without the interference of others, though her purpose was publicly announced and the progress of the starvation was published from day to day in the public journals. It is monstrous to say that the individual can have, as against the State, any absolute right thus to dispose of his own life; and it is well worthy of consideration whether there ought not to be criminal laws that would reach such cases, and also the cases of those who have become the slaves of vicious habits to an extent that destroys their capacity to care for themselves, and makes them miserable dependents upon others or upon the public. A man who surrenders himself to indulgence with alcohol or opium to an extent that destroys his manhood, has no claim upon the State to be treated otherwise than as a criminal. We waste upon such persons too much of that sort of compassion which leads them to commiserate themselves as poor unfortunates, and thereby encourage them in their vices; and when we punish them, it is likely to be with petty fines which make them more dependent, or by imprisonment in idleness in which there is no tendency to reformation. A more vigorous treatment, which should compel such persons to perform service for the State which they refuse voluntarily to perform on their own behalf, would be more sensible and far more likely to be efficient in reformation.

When the extent to which the State shall interfere with the action of individuals, for sanitary protection is in question, we must of course keep in view the traditions and prejudices of our people, which are all in the direction of restraining the government within the narrowest bounds which are consistent with public welfare and safety. But the question, what the limit shall be, is one of policy rather than of law. The judicial decisions recognize the most ample power in the State to do what seems best in sanitary matters. In Louisiana, the State went so far for the protection of New Orleans against the customary evils of slaughter houses, as to give to a company of individuals the monopoly of the slaughter of cattle for the market; an exercise of power that at first seems startling, but it has been fully sustained by State and federal authorities.

Does the State introduce no evils in its well intended effort to preserve the health of the people? If it did not, it would be very surprising; for there is probably no other exercise of governmental authority that is not liable to cause evils and hardships. The best the State can ever do is to consult, and endeavor to advance the general good; but individual hardships are inevitable. Those persons who, with so much warmth and vehemence, protest against vaccination as productive of more evil than good, can easily point to individual cases in which serious results have followed. It is equally easy to show that anesthetics destroy life, and to base an argument thereon that their use should be prohibited. It is possible to encounter peculiar conditions in any human system which will give to any particular medical treatment or any medicine a peculiar effect; but we cannot, for any such reason, forbid the practice of medicine or the giving of remedies that generally prove beneficial. Nor can we, when the public safety is involved, consent that a man's protest shall exempt him from a sanitary regulation merely because it is possible, though utterly improbable, that in his case the regulation may prove harmful. All progress in society, all amelioration in the condition of the people, would be brought to a stand if such consideration could be suffered to control. We should condemn railroads, and any other possible improvements, if we judged them solely upon the evils which they bring.

There is one very effectual protection against any considerable abuse of sanitary powers, which is this: that sanitary officers are not final judges when individual rights are involved. A board of health may order the destruction of a mill-dam as a nuisance; but if the owner denies the fact, he is entitled to a trial of it before a jury of his fellows. If the board were to destroy it by their own authority, they would do it at the risk of being held accountable, if the public sentiment, as expressed in the verdict of a jury, did not conform to their own conclusion. This is abundant protection against arbitrary action by these boards; for though there is always a presumption in favor of their orders, when they are made upon subjects within their jurisdiction, the presumption is not conclusive, and the leanings of a jury are likely to be against whatever to them has an appearance of being arbitrary or oppressive.

And this consideration should never be lost sight of when sanitary affairs are under discussion. The people need to be educated in the laws of health and the causes of disease, not only on their own account as individuals, but because they may at any time be summoned to assist in the administration of sanitary laws under circumstances when ignorance might be seriously detrimental. We have a right to be proud, as citizens of Michigan, that our State has done and is doing so much in this direction. Having myself never been officially connected with sanitary work, I have nevertheless had some occasion to observe the labors of the State Board of Health, and to know that it was performing a service of great value to the State. Conventions like this are schools for us all. They, alone, will not make us wise in the subjects discussed, but we shall at least have our attention awakened, and be more attentive hereafter to the dangers to health which are everywhere about us and threatening us.

One object I have had in opening the business of the Convention with some reference to legal rules, is to impress the thought upon the members that sanitary boards are ministers of the law, clothed with high and responsible duties relating to some of the most important concerns of society. As such, they are entitled to our cordial support and assistance; and we should give these freely and without reserve. The greatness of a State is to be found, not in its fields, and forests, and mines, and rivers, and lakes, but in the measure in which these are made available for the benefit of mankind through the physical and intellectual labors of a robust and vigorous people. And to have a robust and vigorous people, we must give encouragement and assistance to those whose duties, investigations and labors make them our teachers in the laws of health, and our monitors when we fail to observe them.

HOW TO COMBAT SMALL-POX.*

BY O. W. WIGHT, M. D., HEALTH OFFICER OF DETROIT, MICHIGAN.

With the origin and history of small-pox, its etiology, pathology, symptoms, course, varieties, complications, sequelæ, morbid anatomy, diagnosis, prognosis and treatment we have nothing here to do. Our attention is occupied solely with its prophylaxis and its administrative management for the protection of the public.

"From small-pox and love but few remain free," was a proverb of the middle ages, showing the universal prevalence of the disease.

INOCULATION.

The earliest measure for combating small-pox was inoculation, which originated in China and India, and found its way to Constantinople. Dr. Timoni, a Greek physician, who studied at Oxford and settled in the capital of Turkey; Dr. Pylarini, Venetian consul at Smyrna; and Mr. Kennedy, an English surgeon, who traveled in Turkey, sent home favorable accounts of the practice, which were successively published in 1714, 1715, and 1716. The profession took no interest in the matter till Lady Mary Wortley Montague wrote to England from Constantinople a very lively and eulogistic account of inoculation, or engrafting, as it was then called, for small-pox, in a letter dated April 1, 1717. "The small-pox," she wrote, "so general and so fatal amongst us, is here entirely harmless by the invention of engrafting, which is the term they give it.

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*A paper read at the State Sanitary Convention held at Ann Arbor, February 28 and March 1, 1882.

"There is a set of old women who make it their business to perform the operation. Every year thousands undergo it, and the French ambassador observes pleasantly that they take small-pox here by way of diversion, as they take the waters in other countries. There is no example of any one that has died of it, and you may believe I am well satisfied of the safety of the experiment since I intend to try it on my dear little son. I am patriot enough to take pains to bring this careful invention into fashion in England."

Lady Montague's daughter was the first person inoculated in Great Britain. It was in 1721, and its success, says Dr. Gregory, was complete. In the same year, Dr. Boylston introduced the practice on this side of the ocean. Of two hundred and forty-four persons inoculated in America, six died. Two or three deaths of prominent persons in England, about the same time, brought the practice, for a season, into disrepute. Statistics carefully gathered by Dr. Gregory, show that small-pox from inoculation is mild, and that the mortality from it is only three in the thousand.

The vital objection to inoculation is that it disseminates the disease in its natural form, and at the present time it is prohibited by law in most civilized countries.

VACCINATION.

The discovery of Jenner by a "masterpiece of medical induction," as Simon calls it, has given to mankind the only means of preventing natural small-pox. It is not necessary to repeat here the origin and history of vaccination.

It is a well-known fact that diseases which may be conveyed from the lower animals to man are communicated only by inoculation, not by infection. These diseases, when conveyed to man by inoculation from inferior animals, cannot subsequently be communicated from man to man by infection. Yet such a disease does not lose its identity. Its intensity varies, but not its essential nature. The law holds good to a still greater extent. A disease conveyed by man to an inferior animal can be reconveyed to man only by inoculation, and afterwards be conveyed from man to man only by the same process, although previous to its transmission through the animal it was infectious. Another feature of the disease, however, is not changed: if man can have it but once by infection, he can have it but once by inoculation, after its journey through the lower animal.

Small-pox follows exactly this law. It can be conveyed by man to the bovine species.* It can be reconveyed to man only by inoculation. When thus reconveyed, it can be communicated from person to person only by the same means. Vaccinia is not catching. The disease is essentially small-pox in the cow, essentially small-pox in man when reconveyed by inoculation, essentially small-pox when extended by inoculation from man to man. Small-pox when inoculated from person to person after the Oriental fashion, is very much milder, very much less dangerous, but still infectious, and when it is taken from an inoculated case by infection, it resumes its original severity and danger. The disease, when conveyed by inoculation from the cow, is still less severe and less dangerous, and being incommunicable by infection cannot resume its original severe and dangerous type. Yet when conveyed from the cow, without fault in the process, without intermediate degeneration of the matter, it protects just as well as natural small-pox. The imperfect protection, lamentably seen on every hand, is entirely owing to faulty methods of vaccination and to imperfect virus. A small percentage of persons will have natural small-pox twice. The same number will have inoculated small-pox twice. They will also take natural small-pox after vaccination. Partial vaccination, however, will partially

*The language of the text would seem too dogmatical, if notice were not taken of the fact that the possibility of conveying human variola to the bovine animal has been called in question.

Applying the logical, or rather the mathematical, process of elimination, which will satisfy the most rigorous demands of scientific form, the question may be distributed into its analytical elements, as follows:

(1) Can human variola be conveyed to the cow by inoculation alone?

(2) Can it be, by infection alone?

(3) Can it be, by inoculation and infection combined?

(4) Can it be, by inoculation, with the concurrence of epidemic influence?

(5) Can it be, by infection, with the concurrence of epidemic influence?

(6) Can it be, by inoculation and infection combined, with the concurrence of epidemic influence?

It is evident, at the outset, that if any one of these questions can be successfully answered in the affirmative, the proposition that human variola can be conveyed to the cow, must be regarded as demonstrated. On the other hand, all of these questions must be successfully answered in the negative, in order to demonstrate the impossibility of the proposition.

(1) Passing over the one success, in ten trials, of Gassuer in 1801, as too inconclusive for scientific use, the experiments of Badcock and Ceely may be cited as evidence that genuine vaccine vesicles may be produced in the bovine animal, by inoculation with human variolous lymph. Both began their experiments in 1840, unbeknown to each other. Ceely succeeded twice, when he found that Badcock was systematically working in the same field, and abandoned his efforts. During twenty years, Badcock inoculated two hundred cows, some of them repeatedly, with small-pox lymyh furnished him by physicians

protect, leaving the person still susceptible to a more or less severe attack of varioloid small-pox.

I think we should gain something in precision, in exact conformity of language to scientific fact, if we were to discard the words vaccination, cow-pox, vaccinia, varioloid, etc., and use the terms natural small-pox, inoculated small-pox, and vaccine small-pox. a misleading nomenclature causes people to imagine that vaccination is an attempt to prevent one disease by another, against which the instinct of reason occasionally rebels, notwithstanding an overwhelming array of facts in its favor.

PUBLIC PROTECTION BY MEANS OF VACCINATION, OR, MORE PROPERLY SPEAKING, BY INOCULATION OF VACCINE SMALL-POX.

In comparison with the long ages of man's life on this planet, non-infectious vaccine small-pox, or vaccination, is a new thing. Sixteen years less than a century ago Jenner published his discovery to the world. Only eighty-four years have elapsed, yet the most dreaded of diseases to which man is subject has already lost the greater part of its terrors. Against the inertia of indolence and apathy, against ignorance and superstition, against dulness and prejudice, against heavy

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who were treating cases of the disease. He succeeded thirty-three times. His experiments were watched by many medical men. Mr. Marson, a very eminent authority in vaccination, used Badcock's lymph for many years. Sir Thomas Watson, in his famous medical treatise, bears testimony to Badcock's success. John Simon, writing officially in 1857, three years before the close of the experiments, says that more than fourteen thousand persons have been vaccinated with such lymph, and more than four hundred medical practitioners have been furnished with supplies of it. A detailed account of the matter may be found in an address of Mr. Hodson, delivered before the British Medical Association, at Ryde, in August, 1881, published November 26, 1881, in the *British Medical Journal.*

Per contra, Dr. Klein, under the supervision of Dr. Burdon-Sanderson, experimented on thirty-one cows, with negative results. (See ninth annual report of the Local Government Board of England, for 1879, 1880). The Lyons Commission, of which Chauveau was a member, made extensive experiments in 1865, without affirmative results. An Italian commission was equally unsuccessful. The Belgian commission of 1881, including Dr. Warlomont, also failed. Veterinary-surgeon Fleming, of the British war office, has written a pamphlet entitled *Human and Animal Variolæ,* in which he maintains that cow-pox and small-pox are essentially different diseases.

It is evident, again, that a single uncontested success in conveying human variola to the cow by inoculation, and returning it to man by the same process as genuine non-infectious vaccine pox, establishes an affirmative answer to the question under discussion. Any number of failures in attempted experiments of the kind prove nothing more than the difficulty of performing the operation.

(2) Accounts of communicating human variola to cows by infection, belong to a realm too shadowy for science.

(3) We have no facts that enable us even to conjecture whether successful inoculation of the cow with small-pox needs the aid of infection.

conservatism and unreasoning tradition, the practice of vaccination has spread in a few decades over the whole civilized world, to the vast benefit of mankind.

A few salient facts and groups of facts will demonstrate to any rational human being the immeasurable utility of vaccination, or, in other words, of inducing, by inoculation, non-infectious vaccine small-pox.

(1) The great mass of people in all enlightened nations have come to believe in it, from observation and experience. *Vox populi, vox Dei.* Enlightened public opinion is a very good, although not infallible, criterion of truth.

(2) Educated medical men are almost unanimous in favor of vaccination. Simon addeessed a question, "purposely construed to elicit the expression of every existing doubt on the protective influence of vaccination," to five hundred and forty-two distinguished medical men, British and foreign, and received an affirmative answer from all but two of them. The British-epidemiological Society published a report of its small-pox and vaccination committee, in 1853, wherein reference is made to favorable answers from more than two thousand British medical men, besides many in other countries. In America to-day,

(4) Neither have any experiments been made to determine whether successful inoculation requires the concurrence of epidemic influence.

(5) Whether infection and epidemic influence combined can convey small-pox to the cow, is unknown.

(6) Whether inoculation, infection and epidemic influence must concur, in order to convey human variola to the bovine animal, although opening a fruitful field of tentative hypothesis, is a question on which not even a single observation, scientifically made, has cast a ray of light.

The argument from the analogy of known facts, in favor of the essential identity of small-pox and cow-pox, is very strong. It is enough to say that no zymotic disease exhausts susceptibility to another. The vaccine of M. Pasteur for chicken cholera is experimentally based on the identity of the vaccine and the disease of which it is prophylactic.

The argument relied on in favor of the essential difference of vaccinia and variola is from their clinical history. The experiment of Thiele, first published in Henke's *Zeitschrift*, in 1839, not only renders this argument baseless, but strongly corroborates the argument from analogy of the identity of these diseases. "Take some small-pox lymph," says Thiele, "and keep it between waxed glasses for ten days; then moisten and dilute it with cow's milk, and with this inoculate a child. The lymph from this child is again to be kept between waxed glasses for ten days, then diluted with milk, and transferred to another child, and so on—the same process being repeated to a tenth child. By this time the disease will have become as benign and non-infectious as cow-pox, the successive ten children having manifested it in a gradually milder form, the secondary fever and secondary pustules around the inoculated part having gradually ceased to occur; and thenceforth the lymph may be propagated directly from child to child (without keeping or milk dilution) just as in ordinary vaccination."

as well as in other countries, the physicians who do not favor vaccination are exceptions to the general rule.

(3) The governments of nearly all civilized nations favor vaccination, and some of them make it compulsory. The British and German governments, both of them conservative and enlightened, require it. The legislature of nearly every state in this Union has enacted a law favoring it.

Statistics on a large scale demonstrate the utility of vaccination. In Moravia, Bohemia and Austrian Silesia, vaccination reduced the annual mortality of four thousand in every million of population, by small-pox, to two hundred. In Westphalia, where the death rate from small-pox was formerly two thousand six-hundred and forty-three in the million of population, the annual mortality from the same cause declined to an average of one hundred and fourteen in the million from 1816 to 1850, under the influence of general vaccination. From 1810 to 1850 the yearly death rate from small-pox in Sweden was one hundred and fifty-eight per million of population, but was two thousand and fifty before vaccination. In Berlin the reduction was from three thousand four hundred and twenty-two to one hundred and seventy-six; in Copenhagan, from four thousand to two hundred. At the close of the last century the esti-

The doctrine of the duality of vaccinia and variola, involves one of two things: either vaccinia arises from time to time *de novo* in the cow, or it has a continued existence in the bovine race. Whoever maintains the former must maintain not only the spontaneous origin of species, but also the repeated spontaneous origin of the same species at intervals. Whoever maintains the latter, must maintain a zoölogical history of unbroken continuousness of vaccinia, or animal variola, in the cow.

There are certain local histories, based on the observation of the common people, attested by the belief of the common people, which throw some light, although not scientifically certain light, on the question of the possibility of conveying small-pox from man to the bovine species. In the midst of the current facts of such a local history in Gloucester, England, Jenner made his great discovery. M. Negri, the originator of propagating bovine virus, three times obtained a fresh supply from cows in Calabria. At Beaugency, in the department of Loiret, France, a fresh "stock" was obtained from an infected herd. A fresh supply was also obtained at Saint Mandé, near Paris. In 1865, a new "stock" was secured at Esneaux, in the province of Liege, Belgium, which is now propagated under the direction of Dr. Warlomont, at Brussels.

It is certain that when milkers, having small-pox, convey the disease to cows, the animals are subjected to the combined influence of epidemic influence, infection and inoculation. In my judgment, future experimenters would do well to keep in view all of these conditions. If the Federal Government shall undertake the duty of supplying the whole country with vaccine virus, here is presented to the National Board of Health a useful field for exhaustive investigation.

Finally, however interesting this discussion may be from a scientific point of view, the practical value of vaccination does not at all depend upon the solution of the question, whether vaccinia and variola aro two distinct diseases or modifications of the same disease.

mated rate in England was three thousand. The average rate of 1841–1853 was three hundred and four. The average rate of 1854–1863, embracing two severe epidemics, was one hundred and seventy-one per million of population. Yet there are men, apparently rational, who denounce vaccination, without suspecting that they are making themselves public malefactors.

(5) Special statistics demonstrate the benefits of vaccination not less strikingly than general statistics. Dr. Seaton and Dr. Buchanan, both of them skilled observers, examined, in various London schools and workhouses, during the epidemic of small-pox in 1863, over fifty thousand children. A large majority of them had been vaccinated in various ways and degrees. Three hundred and sixty out of every thousand who had not been vaccinated were scarred with small-pox. Less than two in one thousand of those who showed evidence of vaccination had small-pox marks. Only one in over one thousand six hundred who had perfect vaccine marks showed pitting from small-pox. Mr. Marson observed and carefully recorded thirty-thousand cases of small-pox under his personal care in the London Small-pox Hospital. Deaths among the unvaccinated were thirty-seven per cent.; among the vaccinated, six and one-half per cent.

The general drift of statistics on the subject, collected during the current century, is in the same direction. I have no doubt that the present epidemic of small-pox in the United States would be quite as calamitous as the great war of the rebellion, without the protection afforded by vaccination. Were the protection as perfect as it might have been, we should scarcely know of the existence of small-pox.

DEGREES OF PROTECTION BY VACCINATION.

Efficient vaccination, that is, vaccination with pure virus and properly performed is, in my judgment, just as complete protection against small-pox as an attack of the disease in the natural way. "Duly and efficiently performed," said Jenner, "it will protect the constitution from subsequent attacks of small-pox as much as the disease itself will. I never expected it would do more; and it will not, I believe, do less." Nature does her work perfectly. The element of art enters into vaccination, and the degree of its success depends upon the material used and the skill of the operator. The best vaccinator cannot produce good results with imperfect matter. The best virus may fail in the hands of a bungler. If such grand results in favor of vaccination, as already presented, are attained by work that is imperfect, what might we not expect with the science, skill and pains which are surely within human reach? Failure of vaccination may involve consequences more dangerous to the individual than the amputation of an arm. Yet we seek a careful and skilled surgeon to perform the latter operation, while any blunderhead is supposed to be capable of performing the former. The surgeon is contented with only the best instruments and dressings when he undertakes a capital amputation. Yet, when he undertakes to protect a fellow-being against a disease, which, taken in its natural form, kills four out of ten of all who have it, he sometimes uses any kind of a knife, and exercises less care in the selection of virus than he would in the choice of a sleeve button. As pointed out in one of the reports of the medical officer of the British Privy Council, the degree of protection afforded by vaccination varies as one to thirty. And the worst of it is, that sloven vaccination, with imperfect or worthless virus, brings the great and beneficent discovery of Jenner into disrepute.

SOURCES OF VACCINE VIRUS.

In order to make clear a subsequent and essential part of this discussion, it is worth while to devote here a few words in explaining how we obtain supplies of vaccine matter. Until quite recently most of the virus used was obtained from the vaccine sore on the human arm. Lymph from a vaccine vesicle seven days old, from the "pearl on the rose," as it was termed, alluding to the red base of the vesicle, was regarded as the perfection of virus. Arm to arm vaccination was considered as the faultless method. Thus from one person to another the supply was kept up. Now, the fashion is to use calves or heifers for the perpetuation of the needed supply. It is supposed by many that calves or heifers are all inoculated with small-pox in order to procure a supply of vaccine virus. The animals are simply vaccinated. It would be rather a serious business to keep a steady supply of small-pox on hand, in order to run a vaccine stable, to say nothing of the extreme difficulty of the operation. The difference between bovine virus and humanized virus is that the former is perpetuated from calf to calf, and the latter from man to man. Both are good. The bovine matter is preferred, for the simple reason that with humanized matter certain dreaded diseases may be inoculated with vaccination. Besides, the production of bovine virus can be carried on in a much more regular way, affording a constant, unlimited supply, as needed. I have no doubt that the danger of inoculating diseases with humanized lymph is greatly exaggerated, but the public is entitled to the benefit of a doubt, in favor of the bovine. A much greater source of danger is in vaccinating with unclean knives. The blood of a syphilitic person may be left on the point of a lancet and pricked into the arm of an innocent person. The blade used by the operator should be held in flame after each vaccination.

VACCINATION, THEREFORE, IS THE CHIEF MEANS OF COMBATTING NATURAL SMALL-POX.

The problem, how to combat small-pox, resolves itself, in great part, into the practical problem how to get the people properly vaccinated. Preaching and teaching are not alone sufficient to secure the desirable end. The State of Michigan has encouraged vaccination by authorizing local boards of health to offer it free to such as need it, at the public expense. As a mild compulsory measure, the legislature has also empowered local authorities to deprive unvaccinated children of the privileges of the public schools. A great majority have been vaccinated, more or less effectively. Many, however, have not been vaccinated, and on every hand there is fuel for a conflagration of small-pox. When an epidemic comes, the work of vaccination is done hurriedly, with defective virus. The only effective method of protecting the public against outbreaks of the disease, is to make vaccination compulsory, in a systematic way. Organic society, called the state, has the right to protect itself. The principle of public self-protection lies at the foundation of criminal law, of general free education, of many measures for the common good. Society has a right to protect itself against epidemics of a loathsome disease, by enforcing the general application of means approved by the experience and best judgment of the civilized world. European governments are adopting such a method, with excellent results, although the administrative methods are still very defective.

It is not enough to enact a mandatory law. The State, in requiring the vaccination of the whole people within its jurisdiction, is bound to do the work gratuitously, safely and well. As, all things considered, bovine virus is the safest and the easiest to produce in desired quantities, the State of Michigan, in connection with its University, or Agricultural College, and under direction of its Board of Health, should maintain a vaccine farm for the production of bovine virus of the best possible quality, in sufficient quantity for the use of the whole commonwealth. Public vaccinators, examined as to their qualifications and appointed by the State Board of Health, should visit every household and public institution once a year, for the purpose of vaccination and re-vaccination. Every child in the State should be vaccinated during the first year of its life, and be re-vaccinated at puberty. The public vaccinators would have much to do the first time they went over their districts. After that their work would be lighter, and to it could be added the duty of local sanitary inspection, whereby a vast amount of vitally useful information could be gathered for the State Board of Health. The public vaccinators should not be allowed to unite any private business with their work for the State. On them should be imposed the duty of initiation of prosecutions for violation of the law they are executing. Registrations of births would aid them, and in turn they could verify and complete such registry. They should be paid by the State, and be as free as possible from local influences.

They could also be used as instruments for distributing valuable sanitary information among the people.

It may be objected that such annual systematic work would cost a great deal of money. It is not necessary to repeat here the statistics on which the incontrovertible conclusion is based, that every needless death represents a total loss to the community of at least $1,000. Any death by small-pox is absolutely needless. If only a hundred deaths a year were prevented in the whole State by the system here recommended, it would be a saving, to the productive energy of the people, of $100,000 per annum. The cost of executing the whole plan, including the constant running of a vaccine stable in charge of skilled hands, would amount to a less sum. The truth is, wise sanitation pays, to say nothing of the loftier aims of preventing sorrow, suffering and death. Besides the direct saving in productive energy by decreasing the death rate, and, consequently, the sick list, it would be a great gain to the business interests of any community to be ensured against the disturbance of periodic outbreaks of the most dreaded of all epidemic diseases. Expenditure for prevention of small-pox is just as legitimate as expenditure for the human care of the blind and the insane.

Above all, such a measure, successfully carried out, would be the entering wedge to a general system of State sanitary administration, which, wisely conducted, would save to the people, in productive energy, to say nothing of the sweet blessings of increased health, more than enough to pay all the public expenses of the commonwealth. Old Ben Franklin, with his penetrating, practical intellect, summed the whole matter up in his sharp, laconic phrase, "Public health is a nation's wealth."

ISOLATION AND DISINFECTION.

In the meantime, till some plan of general and continuous prevention can be carried out, we shall have visitations of small-pox, and must use such means as we have to combat it. It must not be forgotten that millions are born into the world every year, who are liable to have small-pox in the natural way. Although miscellaneous vaccination performed with varying degrees of skill, with virus furnished by commerce, subject to the temptations of commerce, costs the aggregate of individuals in the community a great deal more than an effective State system would cost in taxation, the practice, in the meantime, must be encouraged, and such other instrumentalities must be used as experience has proved to be useful. Of course, cases must be reported to the sanitary authority as soon as suspected. Isolation is of great value. A large card on the house, announcing that the disease is within, is very effective, for the simple reason that everybody is afraid of small-pox, and will avoid it when its location is known. Intelligent, thorough, pains-taking disinfection of the place, after the disease has terminated, is essential. During the five months that I have been health officer of Detroit, I have had to deal with twenty-one cases of small-pox in twelve different localities. Only seven cases have been taken to the pest-house. In no instance has the disease spread from the house where it first showed itself. All of the cases have been in the most densely inhabited parts of the city. Isolation, vaccination of the household and immediate neighbors, and disinfection, supplemented by a small pest-house for vagrants and those who could not be taken proper care of home, have entirely prevented the spread of the disease from twelve different foci in a large city.* But it is not necessary to dwell upon the details of municipal sanitary administration.

I wish to say, in this connection, that such satisfactory results were only possible on account of the conscientious and intelligent co-operation of the medical profession in the metropolis of the State.

HOSPITALS FOR CONTAGIOUS DISEASES.

The word pest-house is certainly suggestive enough, and with it are associated many real as well as imaginary horrors. It would be a good thing if use of the term were dropped by general consent. A real hospital, a *hotel-Dieu*, a God's inn, for wise and humane care of the homeless and friendless who are suffering and helpless with small-pox, ought to be attractive instead of repulsive, to those in need of the charity which it offers. Until universal vaccination shall thoroughly protect the public against this disease, it is incumbent on every community that is thoughtful of its own safety, to provide such an institution and have it always in a state of readiness.

It is easy to procure and pitch hospital tents in summer, but epidemics of small-pox generally come in winter. In country places and villages, it is not difficult to find an isolated building for a temporary hospital. In cities, the location of a a pest-house, even for a brief period, is frequently attended with extraordinary difficulties. The Board of Health in Detroit has had some experience of this kind during the present season.

A permanent small-pox hospital for a city, so located as to be easily accessible, so constructed as to be safe in a populated neighborhood, so arranged as to afford healthful conditions to inmates, so planned as to secure isolation, administered so as to be a real home to unfortunates, is a thing ardently desired, but not yet realized. After thinking over the matter a great deal, I have conceived a plan for such a hospital, which I now give to the public for the first time. The plan may or may not have merit, but such as it is I freely and sincerely offer it. I call it

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*Up to February 27, the date of this writing.

A FLAME-VENTILATED SMALL-POX HOSPITAL.

Around a central octagon, construct four other octagons of the same dimensions as the central one. There will then be five octagons in the general form of a square. Of necessity, there will be four intermediate spaces, on opposite sides, between the four external octagons. A single line will enclose each of these intermediate spaces, making a square of each, the length of the side of which will be the same as the length of the side of the octagon.

Suppose the length of line chosen is twelve feet. There will then be four external octagon rooms, or wards, about twenty-eight feet in diameter, and four small rooms, or isolating wards, twelve feet square. Let the height of ceiling be fifteen feet. Each octagon ward will then have about ten thousand cubic feet of air space, and each square room about two thousand. Each of the octagon wards would be large enough for five patients, giving to each the regulation two thousand cubic feet of air space, and 144 square feet of floor space. The small square rooms would be equally sufficient for one patient each. Such a building would be ample for twenty-four patients, without the central octagon, which might be divided into four large bath rooms, with necessary accessories. In case of pressing need, thirty patients might be put into the building, still giving to each as much cubic air space as the famous Herbert Hospital of England affords.

It will be perceived that the structure is limited to one story. In the light of existing knowledge and experience, it would be positively wicked to construct a contagious disease hospital more than one story high.

What are the advantages of such a form?

(1) Each of the wards can be ventilated by an iron pipe, running from the centre of the ceiling up through the roof, in the lower end of which a flame of gas, or of some other material, may be kept constantly burning. A twelve-inch pipe going up from the centre of the ceiling in the octagon would cause an entire change of air in the room every forty minutes, provided the movement of air in the pipe were five feet per second. A much greater velocity might be gained by letting in a larger supply of air from the outside. A complete change of atmosphere in the ward once in forty minutes, would give each patient the regulation three thousand cubic feet of fresh air per hour. A six-inch pipe would do the same service for each of the small square rooms.

The constant flame in these ventilating pipes would not only cause a strong draught upwards, but would consume every particle of contagion in the air from the infected rooms. The constant strong upward draught would cause a perpetual inward movement of fresh air through every crevice, open window or door. No contaminated air could escape from within to poison the outside atmosphere. There could be no accumulation of infection in the wards, for the contagious germs would be reduced to harmless oxyds as fast as generated from the patients. With proper arrangements for disinfecting and washing clothes and bedding, such a flame-ventilated hospital would be safe in the centre of a large city.

(2) The walls of the structure could be made very light, and yet be very strong; for there would be no length of line over twelve feet, and all the sides would be mutually supporting. The thinnest hollow wall would be sufficient. The whole structure could be made fire-proof at a minimum cost.

(3) The form of the structure is such that none of the larger wards could be entered except through two doors, which should be made self-closing by means of springs.

(4) Each of the wards has an adjoining room in which a delirious patient might be confined, or a patient about to die might be placed away from the others. It is very distressing and injurious to the sick, to witness the death of a fellow-sufferer in their midst.

(5) The form of the building is such that a small portion of it can be conveniently and economically occupied by a small number of patients.

(6) The form of the structure is such that you can add to it indefinitely, without at all changing the plan, or interfering with the occupancy of the part already built.

(7) A seperate roof can be constructed most cheaply over each section of the building thus making it picturesque and ornamental.

(8) The structure is compact, without excluding sun-light and air.

(9) In the main wards there are no sharp corners for the collection of foul air and contagion.

(10) The facilities for separating the different classes of patients are unequalled.

(11) If for any reason it should be found desirable to destroy a portion of the building, a piece could be taken out without disturbing the rest.

(12) Any ward in the building could be disinfected, even with chlorine gas, while the other wards were occupied.

(13) The roof over each room being separate, there would be no continuous blind attic to convey the foul gases of water closets throughout the whole building.

(14) No fire-proof building for the same number of patients could be constructed so cheaply on any other plan. Such a building as here described for twenty-four patients, could be erected, with tile floors and slate roofs, for $4,000. It must not be forgotten that each patient is to have two thousand cubic feet of air space, one hundred and forty-four square feet of floor space, and three thousand cubic feet of fresh air per hour. In

addition to which, the contagium is to be consumed by flame as fast as generated.

This kind of structure for a city may be placed in the center of a square, surrounded by a high fence along the streets on the four sides, so that there will be no access to the hospital except through a two-story administration building in front, which should contain a dispensatory, reception room, kitchen, and sleeping rooms above for nurses when off duty. In rear of this, should be a boiler-room, and near by the hospital should be a laundry, containing proper apparatus for disinfecting with super-heated steam.

If a larger hospital were desired for a larger city, a group of ten octagons in form of a parallelogram, four long, two wide, two central, with eight intervening square rooms for isolating delirious or moribund patients, ample for the care of forty-eight infected persons in the best manner, sufficient for seventy-five in case of special need, even then giving to each one thousand, five hundred feet of cubic feet of air space, could be constructed of fire-proof materials for a maximum cost of $12,000, including a good two-story administration building, boiler house, laundry, heating apparatus, etc. It could be disinfected, even to the bricks in the walls, with chlorine gas, and be safely used for cholera, scarlet fever, diphtheria, typhus fever, or other epidemic diseases, in the absence of small-pox. Private residences infected with small-pox are not burned down, but are safely inhabited, even after ordinary disinfection.

Recurring to the most important means of combating small-pox, I cannot better conclude a discussion, somewhat lengthy, but not by any means exhaustive, than in the words of Dr. Henry Tomkins, medical superintendent of the fever hospital belonging to the Manchester Royal Infirmary at Monsall, in a paper recently read at Owens College:

"The most striking of all evidence is, perhaps, that derived from the small-pox hospitals themselves. Here the protective influence of vaccination is seen and proved in a manner beyond all cavil. At Highgate, during an experience of forty years, no nurse or servant having been re-vaccinated has ever contracted disease, and evidence of the same character I can myself bring forward, for during the whole time that I have had charge of the fever hospital more than a thousand cases of small-pox have passed under my care, yet no servant, nurse, porter, or other person engaged there has, after re-vaccination, ever taken it, though exposed daily to infection in its most concentrated form. * * * Again, among all the students who during the past two years have attended the hospital for clinical instruction, not one has suffered, all have been re-vaccinated before being permitted to enter the small-pox wards. * * * I defy the most enthusiastic or conscientious of anti-vaccinators to produce evidence like this on his side of the question, or to bring forward even half a dozen persons, choose them whence he may, who have not been protected against small-pox, and expose them as the students are exposed, without more or less of the number taking the disease. Facts such as these should convert the most ardent anti-vaccinator from his folly, and convince him that a weapon of defense so powerful as vaccination should not be left to the pleasure of the individual, but that the state has the right and duty to look after its most thorough performance."

To which may be added the pregnant words of Dr. Wilson of Kelso, requoted after forty years, by the venerable Edwin Chadwick, at the Brighton Health Congress, in December last: "When man shall be brought to acknowledge that it is by his own hand, through the neglect of a few obvious rules, that the seeds of disease are most lavishly sown within his frame, and diffused over communities; when he shall have required of medical science to occupy itself rather with the prevention of maladies than with their cure; when Government shall be induced to consider the preservation of a nation's health as important as the promotion of its commerce or the maintenance of its conquest, we may hope then to see the approach of those times when, after a life spent without sickness, we shall close the term of an unharrassed existence by a peaceful euthanasia.

CASE OF FAILURE OF RESPIRATION DURING ANÆSTHESIA FROM CHLOROFORM.

BY WILLIAM L. AXFORD, M. D., CHICAGO, ILLINOIS.

R. W., a weak anæmic boy of twelve years of age, had been troubled for some time with retention of urine, and, medicinal treatment having proved unsatisfactory, it was determined to remove the prepuce which was long and tight. I was asked to administer the anæsthetic, which in this case was chloroform, for my friend, Dr. W. H. D. Lewis, of Hyde Park, who was the operator. The patient behaved remarkably well for some time under the anæsthetic, the tongue only giving some trouble which was overcome by pulling it forward with dressing forceps. The pulse was full and regular, and respiration normal. At no time during the operation was the anæsthesia carried so far as to give rise to stertorous breathing. When nothing remained to do but to tie the sutures, the chloroform was discontinued, and supposing the patient would rally, and considering him perfectly safe, as shown by pulse, respiration and appearance, I assisted the operator in tieing the sutures, taking care, however, to keep the radial pulse under observation. I had been thus occupied for some moments, when I noticed that the pulse began to intermit, and on looking saw that the lips were livid and that respiration had ceased. We immediately laid the patient on the floor, and by the aid of ammonia, brandy and artificial respiration, finally succeeded in restoring him. To add that we were gratified in getting out of the scrape, is superfluous. The case struck me as one in which the symptoms were such as would be expected in ether narcosis, to-wit: arrest of respiration, lividity of countenance, continuation of the heart's action after respiration had ceased.

Apropos of this, H. C. Wood says: "When death is produced by chloroform in man, it is generally by cardiac arrest, rarely by asphyxia."

TREATMENT OF FRACTURES OF THE LEG AND THIGH IN MERCY HOSPITAL.

BY F. J. GRONER, M. D., BIG RAPIDS, MICHIGAN.

As there are a large number of fractures treated here it may be of some interest to know the method followed. Simple fractures of the leg are put up in Ahl's adaptable splints secured by a many-tailed bandage. A roller bandage is applied to the foot and ankle. In from five to eight days as the swelling disappears a plaster of Paris cast is applied, and patient walks about by aid of crutches. When the cast becomes loose it is slit open and tightened by a many-tailed bandage. If union is not secured within four or five weeks the ends of the bones are thoroughly rubbed together and a new cast applied. We have never failed to get union after a second rubbing.

Fracture of either tibia or fibula is treated in a similar manner. Cast, however, is frequently applied from the beginning.

Compound fractures of the leg are swung up in a wire splint for several weeks; then a cast is applied cutting a fenestrum over the external wound as the roller is applied. Cleanliness is secured by changing the oakum dressing frequently. The plaster cast has proved very satisfactory in compound fractures of the leg.

For fractures of the femur the long splint, either Liston's or some modification of Desault's is used; encasing the inside of the thigh by one of Ahl's splints, and applying a many-tailed bandage. With these we get extension, counter-extension and lateral support. At the end of five to eight weeks a plaster of Paris cast is applied and the patient allowed to move about. We commend the above treatment not only for the simplicity of application but for satisfactory results. Very few practitioners realize the value and convenience of the many-tailed bandage. A number of fractures come here already dressed. We notice a superabundance of roller bandage, layer upon layer. A many-tailed bandage is far more efficient in securing a splint; it is applied in very much less time, with less pain and annoyance to the patient.

THE PURIFICATION OF WATER BY FREEZING.

BY C. P. PENGRA, M. D., ANN ARBOR, MICHIGAN.

The purification of water by freezing is a question of considerable importance, and although intimately connected with hygienic work, seems to have been quite overlooked in the past. It is admitted that there is no *absolutely pure* water in *nature;* the nearest approaches, being distilled, rain, snow and ice-water: and as regards impurities of either—and one's opinions must naturally be formed from a knowledge of the source—the immediate conclusion would seem to be that ice-water passes through the most favorable condition for contamination and it would also seem that from this consideration alone more good would come in the way of greater discrimination in its harvest; but people have lived and the same people have used impure ice and with this experience of the ages as a guide, the public stamp of "custom" has been sufficient to prolong and increase the practice. The general opinion being that the process of freezing is a ready and sufficient means of purification, the result of which has been to use *ice-water* from any and every source, and for all purposes.

The few exceptions to this general opinion, are to be found among scientific men, and so careless have been their observations and especially their reports that the public are scarcely warranted in admitting their reliability. For example, Pavy in his study of "Foods" says that purification of water by freezing is imperfect because common salt can often be *tasted* in ice, and even Hassall from whom only I have been able to obtain any results of analyses, states that ice-water is one of the purest in nature; owing to a very beautiful and remarkable fact, that, in freezing, which is an act of crystallization, *all* or *nearly all* substances or impurities, gaseous, organic and mineral, are cast out and may be found in the unfrozen liquid; that a well known illustration of this fact is afforded by ice-bergs, which although formed from the sea, yet when melted, consist of water in a state of *great* purity.

Remarks like these, supported by but *one* set of experiments are evidence of the source of the general opinion of which I have spoken.

No one will contend, that all ice is equally, any more than that it is absolutely, pure, but will in all probability admit that our aim should be to appropriate that which is the most pure and wholesome. With this end in view, at the instigation of Dr. Vaughan, we have been induced to make a series of experiments, by no means at an end, but the results of which to date have been as follows: Our first experiments were with solutions of crystalloids and first of these with urea, dissolved in distilled water, and afterwards estimated by Liebig's method:

100 cubic centimeters of which before freezing contained .83 grams.
100 cubic centimeters of which from the ice......contained .50 grams.
100 cubic centimeters of which not frozen.........contained 1.30 grams.

In other words a "casting-out" of .33 grams (40 per cent.) by freezing.

The second experiment with urea, as found in normal urine and estimated by nitrogen:

7300 cubic centimeters before freezing contained .91 per cent.
165 cubic centimeters from the ice..... contained .42 per cent.

Showing a purification of 53 per cent. by freezing.

A third experiment with grape sugar, in which:

100 cubic centimeters of the original solution contained 1.5 grams.
100 cubic centimeters from the ice............... contained .96 grams.

A purification of 55 per cent by freezing.

In the fourth experiment, As_2O_3 was dissolved in NH_4OH and diluted to 1000 cubic centimeters with water, as analyzed by Mr. T. H. Hubbard of the pharmacy department.

1000 cubic centimeters of original solution contained 1.78 grams.
500 cubic centimeters from ice................. contained .48 grams.
500 cubic centimeters not frozen.............. contained 1.30 grams.

A 40 per cent purification by freezing. I may also add just here, the one experiment of Hassall, in which the mixture was frozen artificially and where the total solids of original water were 27 grams, of ice 3 grams, water not frozen, 14.2 grams.

ORIGINAL WATER.	ICE.	WATER NOT FROZEN.
Chlorine, 1.94 grams.	.9 grams.	None.
Calcium, 10.50 grams.	Trace.	14.5 grams.

The deduction from which would tend to show *more* purification than in the former cases, but that the experiment was only an approximation, is evident when we consider that there were four grams more Ca. found in the water not frozen, than in the original solution.

Our next experimentation was with colloids, and we regret that it has been confined to albumen, but since our results have been quite constant, the three will be better evidence of the one fact. In the first, about 1000 cubic centimeters of a solution of egg albumen, were frozen solid:

50 cubic centimeters of the lower third contained 6.87 grams.
50 cubic centimeters of the middle third contained 4.19 grams.
50 cubic centimeters of the upper third contained 3.015 grams.

Showing a gradual but slight purification from above downwards.

In our second experiment with albumen as found in albuminuria:

50 cubic centimeters from ice, ...contained .5 grams.
50 cubic centimeters from unfrozen urine contained .8 grams.

A purification of about 20 per cent.

In a third, with egg albumen:

50 cubic centimeters of the original solution contained .25 grams.
50 cubic centimeters from ice...................... contained .21 grams.
50 cubic centimeters from unfrozen solution contained .35 grams.

A purification again of about 20 per cent.

As will be noticed, the purification of crystalloids is at least thirty per cent less than that of colloids. It is obvious that these results must vary with the rapidity of freezing, but as these specimens were frozen naturally, and under the varying temperatures to which common ice is subjected, they may be considered even more applicable to the general purpose of sanitary work. The conclusions drawn from the foregoing were quite beyond our expectations, not supposing that there would be so great purification as has been evident, but while this information has been somewhat of a surprise, it is also sufficient proof, that we cannot, as sanitarians, admit the indiscriminate collection of ice, as is too often practiced, but should lead us to endeavor to persuade the public that pure ice can only come from pure water. That ice from water of cesspools or privies, cellars, cemeteries and the like, or containing any dead and decaying animal or vegetable matter, or from muddy streams, stagnant or shallow ponds or pools, *cannot be pure* or even wholesome, and the practice of gathering ice from such, is absolutely injurious to health; even if used for no other purpose than that so common of packing poultry and various other fresh meats.

In other experiments, which we hope to complete in the near future, we shall attempt to estimate the purification, if any, as affecting the numerous organisms, so common in water.

Since writing the above, I have read a paper as presented by Dr. Orlando Brown and printed in the Second Annual Report of Connecticut State Board of Health, recording instances in which it was demonstrated beyond doubt that very serious disease resulted from using impure ice; he regards albuminoid-ammonia as a reliable indication of contamination when excessive, and when accompanied with but little free ammonia and no evidence of chlorine, its presence indicates vegetable decay, the products of which, contaminate water, whereas the presence of chlorides indicate contamination from animal decay.

The report as a whole is but additional evidence of the necessity of extra precautions in sanitary work.

EDITORIAL BRIEFS.

We hope that any and all delinquent subscribers will send in their dues immediately. Please do not delay in this matter.

A Hospital for Women.—Dr. E. B. Stevens, editor of the *Obstetric Gazette*, has opened a private hospital for the medical and surgical treatment of women, at Lebanon, Ohio. Many of these diseases need the constant care and attention that can be secured in such institutions, and any woman placing herself under the care of Dr. Stevens may be sure that she will receive the best treatment possible.

WE are pained to learn that Dr. D. C. Hawxhurst, of Battle Creek, Michigan, died February 16, in Paris, of small-pox. Dr. Hawxhurst was a graduate of both the departments of medicine and dentistry in the University of Michigan. In microscopy he was not only a skilled manipulator, but an original investigator. He had gone to Europe on his bridal tour, and was attending the clinics at Paris when his fatal illness overtook him. By his death, scientific medicine has lost one of its most *clear* headed and enthusiastic disciples.

THE RIGHT TO A NAME.—Some time ago Allen & Hanburys of London, introduced into England a drug prepared by the inhabitants of the Fiji Islands and called "Tonga." Messrs. Parke, Davis & Co., also sent to the Islands, obtained some of the same drug and introduced it to the profession in this country. Now, Messrs. Allen & Hanburys having obtained a copyright on the name "Tonga" in England, claim that the American manufacturers cannot sell the drug under the name tonga. Be it understood that Parke, Davis & Co., have placed upon the bottles their own name and have not attempted to copy the label of the English house. The claim is that the drug when sold by any other than Allen & Hanburys must be called by some other than its proper name. The claim is absurd, and we are not surprised that eminent legal opinion from Jas. Brooks Dill and others in favor of Parke, Davis & Co., has been obtained.

NEW YORK STATE MEDICAL SOCIETY AND ITS NEW CODE.—At its recent annual meeting held February 7, 8 and 9, this society adopted a new code of ethics which contains some strange clauses. With regard to consultations the new code states: "Members of the medical society of the State of New York, and of the medical societies in affiliation therewith, may meet in consultation *legally qualified practitioners of medicine; emergencies may occur in which all restrictions should, in the judgment of the practitioner, yield to the demands of humanity.*"

The sole object in view in the adoption of this code seems to have been to open the doors for consultation with irregulars, for in all other respects the new code does not differ materially from that of the American Medical Association. In the State of New York, all graduates of chartered schools are legal practitioners, and according to the new code, consultations with homœopaths, eclectics et *omne hoc genus* are allowed. Not content with allowing such consultations, the framers of the code add the second clause: "Emergencies may occur in which all restrictions should, in the judgement of the practitioner, yield to the demands of humanity." This permits consultations with all kinds of quacks, faith-doctors, root and herb doctors, abortionists, etc. In another section of the code, mem-

members of the profession are forbidden to resort to public advertisements, still they are allowed to consult with those who do advertise. There is only one possible good that can come from a consultation between an intelligent physician and an ignorant quack; the former may be able to give the latter some valuable instruction. Indeed, such a conference cannot in any sense be a consultation. Will Dr. Jacobi, for instance, when, *in case of emergency*, he is brought to consult with the "faith doctor," inquire as to the incantations offered, the passes made and the prayers said? When scientific medicine stoops to consult with quackery, she debases herself.

The right thing for medicine and for humanity, for the physician to do, when called "in emergency" to a case attended by a quack, is to state to the patient or friends that he (the physician) cannot consult with the attendant. Then leave the patient or his friends to do as they choose. The physician is not responsible for the injuries inflicted by the charlatan, and the debasement of the medical profession can never prove of good to humanity. Compare the action of the New York State Medical Society with that of the College of Physicians of England as given elsewhere in this number.

Regular physicians should not consult or otherwise treat as professional equals any who trade in a name and claim that there is only one narrow principle of cure. Let the homœopaths drop their exclusive name and simply announce themselves as physicians and surgeons ready to adopt any thing that may be beyond question proven of utility in the treatment of disease. A scientific physician cannot consult with an honest homœopath only in that very small number of cases in which both agree that the law of similars may work. If the physician should suggest any other treatment, the homœopath, if honest, and as long as he proclaims himself the disciple of his particular sect, can never acquiesce. Moreover, the homœopaths are not ready to drop their exclusive name. It is their stock in trade. There is yet too much superstition in the world, and the idea of curing all diseases on one principle—a belief in a panacea for all ills—will cling to the world as long as there are so many ignorant men and women in it. The idea of curing all diseases by one principle was born of the same desire that led to the search for the philosopher's stone and the elixir of life in ages gone by; the same fanatical spirits are engaged in the search and they find the same ready dupes. Some dupe themselves; others find other victims. The man, who proclaims himself a homœopath, shuts himself out from the study of all other methods of cure. His field of investigation is a very narrow one, and in no true sense can he be a scientific man.

WOMEN IN MEDICINE AND PHARMACY.—An editorial, in a recent number of the *London Lancet*, entitled "Women as Pharmaceutists," is as follows: "Before the suggestion that women should be employed as pharmaceutists or dispensers is adopted, let other considerations besides that of mere 'intellectual and physical fitness' have weight. The experience of the postal and telegraph offices, in which females are entrusted with the simple duties of selling stamps, issuing money orders, and taking in messages, would seem to show that there is one propensity of the sex which is in itself an insuperable obstacle to the employment of women in pharmacy. They *will* talk. This is a universally evident weakness on the part of those at present occupying the desks at both large and small offices. This evil is so widespread that we venture to predict the abandonment, before many years have elapsed, of any attempt to employ women in public offices. If females were entrusted with the duty of dispensing, cases of poisoning from misadventure would certainly increase in number, while less formidable blunders in the compounding of mixtures would become the rule. There is in the mind of woman an inherent disability for work of any kind which requires concentration of thought and mental isolation. It is not that she will not, she *cannot* attend to the business in hand so exclusively as it is necessary the practical pharmacist should attend if his duties are to be discharged with credit to himself and safety to customers."

These are the conclusions drawn by the editor of the *Lancet* from a study of the female employees in the public offices in Great Britain. A sufficient time has now elapsed since the professions of medicine and pharmacy in the United States were opened to women, for us to draw some general conclusions, which we propose to state here in brief but in candor. We have the advantage of the *Lancet* inasmuch as we have studied woman in the performance of the duties of physician and pharmacist, and are not compelled to draw our conclusions as to her fitness for these professions from her successes or failures in telegraph and postal offices. The department of medicine and surgery and the department of pharmacy of the University of Michigan were among the first of the old schools to open their doors to women, and the graduates from these departments are now scattered all over the world. It has been the fortune of the writer, as a fellow student, as a teacher and as a consulting physician, to be brought into contact with these women. Their successes and failures, their fitness and unfitness in all these relations have been objects of close study.

In the first place, we wish to divide the lady medical students, who have come under observation, into two classes, (1) those who have begun the study of medicine and pharmacy late in life and who have been for years unaccustomed to study, and (2) those who, with a liberal, classical and general scientific education, have immediately entered upon the study of the profession. In a fair study of the capabilities of woman, the first class should not be considered. If the preliminary examinations had been as rigid as they are in England and as they should be in this country, none of this class could have entered the profession. We dare say, however, that these women have done as well as men would have done under the same circumstances. Take a man from the work-bench or counter after he has been there for twenty years and he would be likely to make but an indifferent student and a poor practitioner of a scientific profession. While we can recall many brilliant exceptions, the majority of this class have been dull in their studies and inefficient in their practice.

But the younger women have, as students, been among the best of their classes and after graduation, as pharmacists and physicians, as successful on the average as their brothers. One young lady was prescription pharmacist for several years to New England Hospital, Boston, and she made none of the serious mistakes, which the *Lancet* thinks would be the rule with female pharmacists. Other women graduates are prescription clerks in large drug stores in such cities as Detroit, Rochester and Poughkeepsie, and we have heard of no fatal mistake made by any of these. As physicians they have excelled in some directions. As missionary physicians their deep convictions and religious devotion to the cause together with their skill have enabled some of them to do great good. This is evidenced for instance by the appointment of one of these ladies as physician to the royal family of China, and by the influence exerted by her in relation to the treaty recently established between China and our country. As physicians to various penal and reformatory institutions for women some of these female physicians have shown that their ability and skill are equal to those of men, and many of them have built up a private practice which their male classmates have not excelled.

It is probably true that the women in the telegraph and postal offices of Great Britain, and from whom the *Lancet* has formed its opinion, are women without any adequate education, without mind sufficient to be concentrated. What the *Lancet* has said of the English women may be true, but it is not true of our best American women pharmacists and physicians.

MEDICAL NEWS.

Some time ago Kaposi of Vienna recommended a new remedy, beta-naphthol, in psoriasis in the form of a ten per cent. ointment. Balmano Squlre (*British Medical Journal*) has given the remedy a thorough trial and finds that it is not so good as chrysophanic acid.

Sir Robert Christison, the eminent toxicoligist, died January 27, at his home in Edinburgh, at the age of eighty-five.

He was known to the medical profession of all countries by his "Treatise on Poisons." Sir Robert held a professorship in the University of Edinburgh for more than fifty years and ranked as one of the most attractive lecturers in that famous school.

THE Royal College of Physicians of England recently passed the following resolution unanimously: "The College considers it desirable to express its opinion that the assumption or acceptance by members of the profession of designations implying the adoption of special modes of treatment is opposed to those principles of the freedom and dignity of the profession which govern the relations of its members to each other and to the public. The College therefore expects that all it fellows, members, and licentiates will uphold these principles by discountenancing those who trade upon such designations."

TRANSLATIONS.

Translations from Russian Journals for THE PHYSICIAN AND SURGEON.
BY RALPH D'ARY, M. D., ROMEO, MICHIGAN.

ULCERS AND THEIR TREATMENT.

BY V. E. CHERNOF.

Among the ambulant patients of the Russian country doctor there are very many suffering from ulcers. So common are these cases, and so obstinate, that they are to be counted among the standing annoyances to the practitioner. And since by them the patients are frequently rendered unfit for labor—a serious consideration with the farmer or peasant—they seek relief most persistently. In my practice I have to deal with them almost every day. Last summer I saw, in my district, many cases that had been standing as long as six, and even thirteen years, and I have succeeded to cure many and at least to relieve even the worst, so that some patients who previously had been unable to cross the room without help, were afterwards able to walk fifteen versts (about ten miles) to my office. My plan of treatment is not very new nor original, but it has proved *successful*, and therefore I communicate it.

The first difficulty that I meet with in the treatment of any abscess, is the carelessness of the patients in the matter of cleanliness. They *will* not understand that cleanliness is absolutely necessary for successful treatment. The second difficulty lies in the fact that the peasants are always at work, always on their feet, and consent to lie down only when absolutely unable to walk. This circumstance is especially unfavorable to those patients who are fat and whose legs swell more easily, and present a great many varicose veins, especially if they are elderly people. In these cases the recumbent position is imperative, in the others not absolutely necessary, but desirable. The majority of the ulcers that I have treated were callous, with thick, elevated borders, with a dirty-grayish fundus, and fetid secretion. These ulcers in some cases completely covered both legs, caused severe suffering and altogether deprived the patient of the ability to walk. The so-called erethic (irritable) ulcer, with serrated edges, painful and bleeding, I have met with less often. But an intermediate type between the two was very frequent.

In order to secure the requisite cleanliness, I prescribed the local bath, in all cases. It was made of an infusion—of the color of common table tea—of aromatic herbs, such as the hay seed, fragments, and blossoms commonly found on the floor of the hay-loft. I found this bath much preferable to the simple warm water bath, for it reduced the swelling of the affected legs more promptly and greatly relieved the irritability of the ulcer. The fetor quickly disappeared, and after a few baths the callous edges of the ulcer became paler, and thinner, and the epidermis peeled off in layers, whilst the immediate surroundings of the ulcer—previously œdematous and purple—assumed a normal and healthy appearance. Callous ulcers with deep fundus, extending over a large surface, with edges especially thick and drawn under, required a more frequent use of the bath, and when in addition to these symptoms there was a fetid discharge, the baths were used twice a day. The frequency of the baths varied from two or three per week to two per day, and was regulated entirely by the more or less aggravated condition of the ulcer. In the case of irritable, painful ulcers which generally were more superficial, the baths were used only until the tendency to hemorrhage and the painful sensitiveness were overcome, after which the treatment described below was followed. The duration of the baths was also variable. The longer the leg with the callous ulcer remained in the bath, the more speedy was the process of healing. I generally advised to continue the bath for an hour or more, keeping the water just comfortably warm—about 28° R. (95° Fahrenheit). Between the baths the ulcers were treated with compresses moistened with a two per cent. solution of carbolic acid and bandaged, but neuralgic ulcers were dressed with a five per cent. solution of nitrate of silver. When, in the case of neuralgic or irritable ulcers, baths were no longer required, the nitrate of silver compresses were allowed to remain unchanged from three to five days, but were moistened twice a day with the same solution—mornings and evenings. But if pus or other secretions escaped, of course the dressing was renewed. Under this treatment there generally is formed along the edges of the ulcer a scab, colored black by the argentic nitrate, and the wound begins to heal from the borders, under the scab. When the edges of the ulcer no longer are free, but intimately adhere to the forming granulations, and when hemorrhage has ceased to occur, I should think a weaker solution of the argentic nitrate, viz: one of three per cent. or even two per cent. would do better than the stronger one employed hitherto. But if a callous ulcer does not seem to become cleaned very readily by the baths, aspersion with iodoform is very useful. It promptly cleans the ulcer, but whether it has any further favorable influence on the ulcer I cannot tell.*

When a callous ulcer becomes clean and the ichorous discharge is lessened, I wind it with strips of adhesive plaster. This is left on, in cases where the patient lives at some distance, sometimes as long as three days, not from choice, but from necessity. But in cases where even this limited amount of attendance is impossible, I advise the patients to apply compresses with the carbolic acid dressing and then to bandage the limb rather tightly, beginning at the toes (or fingers).

In some cases a limb affected with callous ulcerations presents many other elevations or superficial intumescences of purplish color with simulated fluctuations. These intumescences generally have a fistulous outlet opening either on the integument or into a neighboring ulcer, and when pressed upon, discharge a serous fluid with admixture of some pus. When, however, the pressure is strongly increased, there appears at the outlet a gray, jelly-like mass, which is connective tissue changed by fatty degeneration. These pseudo-fluctuating intumescences I open, converting them into open wounds. I press out the degenerated adiposo-connective tissue and then treat the wound like the ulcer. Unless this is done, the ulcer, after healing, will soon break out again at the intumescent spot. I beg to caution the reader that I am not speaking of ulcers or formations of a specific character. I have observed the above on patients perfectly free from syphilitic taint. In these cases the aromatic bath, twice a day, is of great advantage, whilst bandaging with adhesive plaster is painful and has little effect.

Those ulcers which were known to me to be of syphilitic nature, or though apparently simple, yet were found on patients

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*(It does not favor cicatrization. See page 565 of THE PHYSICIAN AND SURGEON, December, 1881. The red wash, lotio rubra, in my experience, leaves nothing to be desired, and obviates the unpleasant odor and danger from carbolic acid, or the expense of the nitrate of silver lotion. The red wash not being officinal in this country I subjoin the formula:

℞.	Zinci sulphatis..................................	gr. x.
	Spiritus rorismarini,	
	Tincturæ lavendulæ comp............	āā f℥ijss.
	Aquæ destillatæ..............................	f℥ x. M.

See also page 367 of THE PHYSICIAN AND SURGEON, August, 1880.—TRANSLATOR'S NOTE).

who in the past had had syphilis, healed well—the first under aspersion with calomel—the last, with iodoform.

In intractable glandular ulcerations of scrofulous children, iodoform very soon cleans the ulcer and favors healing.—*E. Clin. Gaz.*

OBSTETRICAL AID IN CANCER OF THE CERVIX.

Cervical cancer of the gravid uterus is so serious a complication that the prognosis is very unfavorable for both mother and child. It is considerablv more unfavorable than in cases of the highest degree of contracted pelvis. This is not because of the obstetrical means which have to be employed, for they are equally severe in either case, but because the degr e of the patient's vitality is very different in the two cases. Whilst in cases of contracted pelvis the general condition of the parturient woman is more often normal and satisfactory, in cases of cancer it is the very reverse—partly from the frequent hemorrhages during gestation, but especially from the presence of the cancerous cachexy.

I shall endeavor, in a general manner, to define the obstetrical measures that may be required in these cases. Let us look for precedent. But for practical purposes it would be useless to go back further than the time of Velpeau and Jacquemier, who both acknowledge that in some cases of cervical cancer parturition may terminate favorably without artificial interference. In proof, both authors cite the same case, observed by Desormeaux. Jacquemier also cites a case of Caseaux, which, though very slowly, yet terminated unaided. Similar cases were made known later by Ch. West, Chantreuil, Laborde, Calmels, and others. Consequently, the first question for the obstetrician to consider in similar cases is whether spontaneous parturition is possible. This possibility depends on two factors: the extent of the cancerous degeneration, and the parturient energy of the patient.

Spiegelberg distinguishes three grades of cancerous degeneration or infiltration.

The first is; when the circumference of the cervical canal is only partially infiltrated. In this grade there is generally a possibility of a natural termination of parturition, as the cervix will allow of the passage of the child at term, by a more or less severe stretching of those parts of its tissues which remain normal. This is proven by the cases cited above, and also by one cited by Spiegelberg himself.

In the second degree the cancerous degeneration does indeed embrace the whole circumference of the cervical canal, but is restricted mainly to its external os, and does not reach as high as the os internum. In these cases spontaneous delivery takes place only exceptionally, when the uterine contractions are sufficiently powerful to cause laceration of the indurated cervical tissue. In most cases artificial interference is required.

In the third degree the cancerous degeneration embraces not only the whole perriphery of the cervical canal, but also its whole length up to the os internum, or even beyond it. In these cases spontaneous delivery is out of the question and the most serious and sometimes even desperate obstetrical measures are called for.

Spiegelberg's threefold schedule, sharply defined as above, however correct theoretically, cannot so distinctly be recognized in practice. Once in a while the practitioner will indeed meet with a case which exactly fits into one of the above classes, but in most cases the classification will remain more or less uncertain. It would not, for instance, be difficult to decide what degree or class to assign to a case where the infiltration has invaded one cervical lip only, leaving the other perfectly free. But it is not easy to determine by mere vaginal examination whether in a given case the cancerous infiltration occupies the whole periphery of the cervical canal, or whether there is yet some normal tissue left, capable of distention. That this is true is proven by cases such as the one of Professor Depaul, in which he had already fully decided to make incisions into the cervix, but where, after some delay, spontaneous and successful delivery took place. In practice we will therefore find that instead of judging of the probable time and progress of the act of parturition by the amount and distribution of the infiltration, we will rather have to reverse matters, and judge from the progress of parturition of the amount of infiltration. It is therefore necessary, in every case, to remain expectant as long as possible. This is the more necessary, as without waiting we have no means of judging of the second factor in these cases, viz: the quality of the uterine contractions. How long a time it may be necessary to wait, we may learn from the literature on this subject, which abundantly proves that in these cases parturition is remarkably slow. Chantreuil cites many cases. Laborde states that the time of labor in these cases may embrace several days. In a case of Mme. Boivin's it lasted eight days. Calmels states four or five days to be the average. We therefore agree with the opinion of Depaul and Guenist, that *so long as there is no danger to the life of mother or child, labor should be left to itself*, and should be aided only by such means as baths, warm douches, tamponnade with Barnes rubber dilators, etc., which means can endanger neither the life of the mother, nor that of the child. That they are sometimes efficient is proved by Savory's and A. Edis' accounts, who both employed Barnes' dilator to dilate the cervix. The first succeeded so well that he was enabled to effect version, and the last, to apply the forceps. In a case of my own I followed this rule and waited forty-five hours before making incisions and applying the forceps.

What are the moments that should determine us to exchange expectancy for active interference? As above stated, expectancy should be observed so long as nothing threatens the life of the mother or child. Therefore, when the fetal heart begins to flag, the mother becomes exhausted, her temperature rises, etc., we must then hasten delivery. What means to adopt to this end depends on various considerations, and especially on the extent of the carcinomatous infiltration. *When it does not occupy the whole length of the cervical canal, incisions would be indicated a priori, with or without the subsequent use of the forceps.* The application of this rule has been tried in very many cases, with favorable results. The older authors, Velpeau, Jacquemier, Bandeloque, and others speak in its favor; also the later ones, Chantreuil, Laborde, and others. Spiegelberg, since he in one case saved both mother and child by the incisions and forceps, also speaks in favor of this rule. G. E. Hermann also indorses it, after examination of one hundred and eighty cases collected by him.

The substitution of podalic version for the forceps is not justified either by actual observation or theoretical consideration. Sympson, who proposed this proceeding, has indeed employed it once with good results to mother and child, but on the other hand the statistical data on this question, collected by Cohnstein, give very sad results. Of the eleven cases collected only eighteen per cent. of the mothers and twelve and one-half per cent. of the children survived parturition. These results are such as one should expect on theoretical grounds. For what gain to the mother is there in podalic presentation? Evidently none, since the possibility of extensive laceration of the cervixal during the passage of the head remains the same whether the latter be born first or last. And to the child this version is decidedly pernicious. This must be self-evident. For even in a normal condition of the parts, a podalic presentation is much more dangerous to the child than a cephalic one. How much greater, then, the danger in case of a cancerous cervix, when the liberation of the captive head must necessarily be so slow and tedious, that asphyxia must follow almost inevitably!

When the carcinomatous infiltration occupies the whole length of the cervical canal, incisions give rise to lacerations so extensive that they implicate the peritoneum and produce fatal peritonitis. Spiegelberg has had one such deplorable experience, and since then has totally abjured the practice. In such cases he advises other measures, viz: lessening of the fetal bulk by perforation, craniotomy, or embryotomy, and the Cæsarian section.

In choosing one or the other of these operations, two circumstances will have to be considered, namely, whether the fetus is dead or living. Since the task of the accoucheur consists in bringing parturition to a termination favorable to both mother and child, it is evident that the choice of the operation must be influenced by that question since the operations affect differently the chances of the two parties interested, the mother and the child.

Let us suppose a living child. Can we in such a case have any doubt whether to lessen the bulk of the child (and thereby destroy it) or perform Cæsarian section? In the present state of our knowledge we must answer this question in the negative, and for the following reasons: If we believe that termination of delivery by dismemberment of the fetus affords greater chances to the mother than Cæsarian section, we ought nevertheless adopt the latter as the only rational mode. For in these cases the life of the fetus should invariably be considered more important than that of the mother, since the latter, even in the case of a to her favorable termination of delivery, is yet doomed to die within a short time, from her incurable malady—the cancer. (Those women generally die within the first year after delivery, and frequently within a few months). If, therefore, we decide on perforation or embryotomy, we certainly lose both lives. Neither should we forget that in reality the operations reducing the bulk of the fetus, offer no more security to the life of the mother than Cæsarian section does. Precedents are not yet sufficiently numerous to afford an opportunity for reductions on the basis of percentage. But we have some isolated records. According to Cohnstein out of six cases of operation on the fetus four mothers died; according to Chantreuil three out of five died. Of three cases of craniotomy, mentioned by Menzies, two mothers died soon after delivery, and the third one died a month later. Valenta also lost the mother in his case of craniotomy. Out of six cases of Cæsarian section performed by Bartholinus, Oldham, Greenhalgh, Galabin, Zweifel, and Spiegelberg, four mothers died soon after delivery and two survived. We believe, therefore, that in grave cases of cervical cancer, where there is no possibility of extracting the child alive through the natural parturient channel, Cæsarian section is the only proper and most rational measure, because in these cases the conservation of the child, not that of the mother, should be the obstetrician's first care.

Now let us suppose the second case—that the child is dead. What considerations shall guide the obstetrician in the choice of the operation? On first thought one of those operations intended to lessen the fetal bulk would seem preferable, since the mother's life only is to be saved. But more careful consideration will lead us to a different conclusion, and we may say that he would badly serve the parturient woman who would undertake one of those operations. Perforation is the least dangerous of the comminuting operations, but it is of very little use, since the narrow and rigid cervical canal still offers too great an obstacle even for a perforated cranium. This is a matter of experience.

As to craniotomy or embryotomy (not to mention cephalotripsy)—their performance is so difficult, and injury to the cancerous cervical canal is so inevitable and generally so great, that we can readily account for the unsatisfactory results of these operations. The mother not unfrequently dies during its performance. We have tried to use the cranioclast, but the pieces brought out, one at a time, were so small that in order to empty the uterus by this means we would have had to introduce the instruments so many times as to render the proceeding simply impracticable. Neither could the sharp fragments of bone have traversed the soft parts without causing additional injury. We have therefore abandoned the use of the cranioclast in these cases.

As to Cæsarean section—it cannot be selected, since we wish to operate for the sake of the mother's safety (the child being dead) whilst this operation, as we have shown above, is fearfully destructive to mothers.

What does therefore remain? We answer: Incisions of the cervix, after all, with the subsequent use of the forceps, to avoid too extensive laceration. This operation, with all its risk, is yet the least dangerous to the mother. Sorry choice!

We have said nothing of the extirpation of the uterus, present experience in obstetrics does not enable us to determine in what cases it may be admissible. We will instance only the case of Bischoff's (of Basle) who had performed Cæsarean section and then decided to extirpate the uterus. Only when in the very midst of the operation was he able to determine that the cancerous infiltration had invaded the perivaginal cellular tissue! The patient died of collapse.—From a paper by A. J. Lebedief, in *E. Klin. Gazette.*

BOOK REVIEWS.

THE OPIUM HABIT AND ALCOHOLISM: A Treatise on the Habits of Opium and its compounds; alcohol; chloral hydrate; chloroform; bromide potassium; and cannabis Indica: including their therapeutical indications: with suggestions for treating various painful complications. By Dr. Fred. Heman Hubbard. A. S. Barnes & Co., 111 and 113 William street, New York.

The exhaustive title of this little volume fully represents its intention, and we believe the author has attained his end to the satisfaction of his readers. He treats of his subject in a manner that is most intensely practical, never leaving room for the least doubt in the reader'smind. The work is evidently theresult of a large personal experience, and it is a prominent peculiarty of the book that it does not contain a single reference to the literature on this subject, or to the opinions of other specialists in the same branch of therapeutics. If on the one hand the author may appear egotistical, dogmatic, and selfsatisfied, he makes amends for it by the simple, clear and masterly manner in which he presents his subject. He enters into it completely and carefully, avoiding no difficulties, but showing the way to overcome them in positive directions. He defines the peculiarities of the opium habit; gives the clinical histories of typical cases; directions for the treatment of a pregnant woman, so as to save both mother and child; treatement pursued with a babes twenty-six hours old; the relations between the opium habit and pulmonary tuberculosis, also cancer and rheumatism; the differential points in diagnosticating between opium narcotism, alcoholism, and the mania of approaching disease; he tells how to lessen the danger of chloroform inhalation; how to render the pains of labor more bearable without the use of anæsthetics, etc., etc. It is an interesting and a curious book. The language, if not faultless, is graphic and forcible. The printing, so far as proof reading is concerned, is wretched. In one place a prescription referred to, is omitted in print, rendering the case unintelligible. D'A.

PERCUSSION OUTLINES. By E. G. Cutler, M. D., Assistant in Pathological Anatomy, Harvard Medical School, etc., and G. M. Garland, M. D., Assistant in Clinical Medicine, Harvard Medical School; Professor of Thoracic Diseases, University of Vermont, etc. Cloth; pages, 65, with nine full page plates. Boston: Houghton, Mifflin & Co., 1882.

The authors state that the work is a condensed abstract of the German literature upon the subject as contributed by Weil, Ferber, Luschka and Gerhardt. The authors have, however, carefully and repeatedly reviewed in their own practice and at the autopsy table, the points which are presented. The work is devoted principally to a study of normal conditions, as any one thoroughly acquainted with these conditions would soon recognize anything abnormal. The directions are given with great exactness and without any unnecessary verbiage, and for this reason are especially suited for the student. The mechanical execution is excellent. The paper is heavy; the type clear; and the plates are admirably executed.

THE CENTURY MAGAZINE (Scribner's Monthly) for March. Subscription price, $4.00; single numbers, 35 cents. The Century Company, Union Square, New York.

The Century Magazine for March contains an able biographical sketch of the English statesman, Lord Beaconsfield. Foe as he was to democratic ideas, Americans can not help but admire a man who although belonging to a race against which an unreasonable and bitter predjudice prevails, ruled the proudest aristocracy in the world for the period of thirty years. This number contains besides the usual number of poems and sketches, a very interesting article by John Burroughs, entitled "Broken Banks and Tax Directors."

A SYSTEM OF SURGERY, THEORETICAL AND PRACTICAL, IN TREATISES BY VARIOUS AUTHORS. Edited by T. Holmes, M. A., Surgeon and Lecturer on Surgery at Saint George's Hospital, etc. First American from Second English edition, thoroughly revised and much enlarged, by John H. Packard, A. M., M. D., Surgeon to the Episcopal and Saint Joseph's Hospitals, Philadelphia, assisted by a large corps of the most eminent American surgeons. In three volumes, with many illustrations. Volume III: Diseases of the Respiratory Organs; Diseases of the Bones, Joints and Muscles; Diseases of the Nervous System; Gunshot Wounds; Operative and Minor Surgery; Miscellaneous Subjects. Price per volume, in cloth, $6.00; leather $7.00; Half Russia, $7.50. Philadelphia: Henry C. Lea's Son & Co., 1882.

This volume completes the American Edition of Holmes' System of Surgery, and much credit is due the American editors and the publishers, for the thoroughness, exactness and dispatch displayed. The most eminent American surgeons have been selected to help in the revision, and it is needless to say that the work has been well done. This is the latest and best cyclopædia of surgery presented to the profession.

SAINT NICHOLAS for March. Subscription price, $3.00; single numbers, 25 cents. Century Company, Union Square, New York.

Saint Nicholas for March has just the faintest odor of Springtime blossoms about it, with enough of winter to make even the changeable sunshine of March agreeable. The sketch of Titian and his works, contained in this number is alone worth the year's subscription.

SELECTED ABSTRACTS.

A BRISTLY BOY.

Surgeon Cauty, of Liverpool, reports (*Lancet*) the following rare case:

"W. R., aged ten, somewhat imbecile but well nourished; on removing his clothes the upper part of the back, both shoulders, and down the outside of both arms, appeared covered with short bristles of a clear darkish-brown-yellow color, acuminated apices, and very clean; these bristles were at the edges of the group gradually shortened from their full length of three thirty-seconds of an inch until they joined the skin, which was at the junction raised into polygonal flat discs, finally graduating off to the sound, healthy skin of the hands, chest, and back. These bristles also existed between the buttocks, where their tips were black with dirt, and as they interlaced before the buttocks separated, the appearance was most singular. The feeling communicated to the hand on passing it over the shoulders was exactly similar to that of touching a coarse brush, and the bristles gave way under the touch, resuming an upright position afterwards. There were a few pink maculæ over the body and considerable scaly thickening on and around the patellæ. There were also a few ordinary comedones and sebaceous collections on the back. The pulse was quick with nervousness; bowels confined; urine free and healthy: tongue clean: appetite good; sleeps well. The bristles were expelled comedones, containing very few immature hairs and very little sebum, drying up into a horny substance. They were tolerably firmly attached, requiring more force to remove them than to extract a well-rooted hair; and when removed they left a small central depression surrounded by a circle of torn epithelium which retained them in position. They averaged one hundred to the square inch, and had existed over three months. The boy was ordered mercurial aperient every third night, and to be well rubbed with olive oil and a few drops of carbolic acid. A week afterwards all these comedones were softer, and those in process of expulsion much more visible. The bowels were now regular. Ordered three ounces of lard and half an ounce of glycerine, to be followed every morning by the benzine lotion. This treatment was continued until September 9, when most of the comedones had disappeared. Some few remaining partially expelled had inflamed; and there were also some inflamed punctæ where the comedones had been. The lard and glycerine to be continued.

"Three months afterwards this boy had an attack of herpes, when I again saw him. The skin where the first crop of comedones appeared is now perfectly soft, while showing not the least trace of their past existence. There are three small sebaceous collections of the ordinary character, about the size of a pea. But the whole surface of the back, which had hitherto escaped, is now covered with slight polygonal elevations with a minute central spot, as though a comedo was about to appear, or, failing to find an exit, had caused slight swelling. During the progress of this case, a solitary comedo made its appearance on the back; and the time of expulsion from first to last was six weeks. It will be interesting to notice if all the parts at first free should follow the course of those affected, which at present appears possible; if so, I am afraid a profitable subject for exhibition has been destroyed. There appears some family tendency to abnormal sebaceous secretion, as a brother, aged twenty, had his face, ears, and neck quite black with comedones of the ordinary character. The formation of comedones of an extra horny character is not very rare; but their expulsion and retention on the skin in such quantities is very uncommon."

DIAGNOSIS, PATHOLOGY AND TREATMENT OF FATTY HEART.

Our knowledge of the disease termed fatty heart cannot be said, more especially as to its diagnosis and treatment, to be of a very definite or satisfactory character. Hence as a basis for further advance we are disposed to welcome the resume of its diagnosis, pathology, and treatment given by Professor Stoffella of Vienna, in a lecture recently published (*Wien. Med. Wochenschrift*, 1881, Numbers XXVI and XXVIII).

After distinguishing between fatty infiltration—which Dr. Walshe calls "local obesity" of the heart—and fatty degeneration, or the precipitation of fat within the primitive fibres, which latter alone he means when he speaks of "fatty heart," Professor Stoffella goes on to say that the diagnosis of the disease, except in its immediate beginnings, is by no means especially difficult. He lays especial emphasis on the weak and usually toneless character of the heart-sounds, combined with the presence of the usual causes of fatty degeneration of the heart. He also notes the weak or imperceptible heart's impulse, the weak compressible pulse, usually intermittent, irregular, and slow. Dyspnœa, permanent or spasmodic, and frequent syncope, with the absence of valvular or pulmonic disease, also assist in the diagnosis. He fails to comment on the relative pulse and respiration rate, which Dr. Walshe has found in some cases 2: 1; nor does he mention the valuable, while not, as was at first thought, diagnostic, symptom of the "Cheyne-Stokes" respiration." We fear, however, that notwithstanding all known aids, the diagnosis of this disease will in many cases be unmade, or if made, will partake more of the character of a probable guess than a scientific conclusion. One of the grounds on which, as we have seen, Professor Stoffella bases his diagnosis, is the presence of the usual causes of fatty degeneration. But while, as we shall see, there is a certain amount of sure etiological ground, outside that lies a residue of cases in which, beyond the hypothesis of a hereditary tendency, we must acknowledge ourselves ignorant of the causes of fatty metamorphosis of the heart fibres.

In discussing the pathology of fatty heart, Professor Stoffella commences with some account of the physiological deposition of fat. Twenty years ago, Voit and Pettenkofer showed that the direct source of the fat in the body is not the carbohydrates, starch, sugar, etc., but albumen. The overplus of albumen left circulating in the blood or other fluids of the body, after deduction of that used in tissue-formation, is broken up into water, carbonic acid, and fat, while, so far as it is perfectly oxidized, it leaves the body as urea and uric acid. The amount of fat deposited will therefore depend on (1) the amount of the "circulating albumen," and (2) the small relative supply of oxygen. As to other sources of fat, it is at least doubtful if gelatine forms fat, and of ingested fat only stearin, palmitin, and olein—the varieties naturally present in the body—go towards the production of fat. While, however, albumen is without doubt the direct source of fat, it is a manifest fact that gelatin, fat, and the carbo-hydrates help the production of fat in the body. This they do by oxidizing and splitting up more readily than albumen, thus using up the available oxygen, so that albumen is oxidized simply to fat, in place of to water and carbonic acid. By their oxidation, also, the carbohydrates spare the fat of the body, while, according to Voit, gelatine saves the blood and tissue albumen.

Parenchymatous fatty degeneration is fundamentally the same process as the physiological formation of fat—that is, the albuminous contents of cells imperfectly oxidized deposit fat granules as a part of the process of destruction, morbid or natural.

Fatty heart is thus, Professor Stoffella says, the expression of a disturbance of nutrition, either purely *local*, as in disease of the coronary arteries or advanced fatty infiltration of the heart, or *general*, as in anæmia and chlorosis, in alcoholism, Bright's disease, the acute exanthemata, and all marasmic diseases. How comes this about? Two sets of experiments help us here. First, Dr. Litten has shown that the muscles of guinea-pigs kept for a lengthened period in a high temperature undergo fatty degeneration—first the heart, then the respiratory muscles, and lastly the body muscles, accompanied by changes in the blood corresponding to those in typhoid fever. Again, various continental observers have shown that if dogs and other animals are subjected to successive blood-lettings, fatty degeneration of the heart supervenes. The result is the same in both sets of experiments, therefore, and the common point between them is the poverty of the blood in red corpuscles. But the red corpuscles are the oxygen-carriers of the body, therefore a deficiency of oxygen follows, resulting in an imperfect oxidation of the organic albumen in cells and tissues. The difference between the physiological and the pathological process is, that in the first the "circulating or store albumen" becomes fat, in the second the "organic or tissue albumen."

The treatment of fatty heart recommended by Professor Stoffella follows as a natural corollary from what has just been said. Deficiency in the oxygen-carrying red corpuscles being the cause of the disease, our object is to stimulate the blood-forming function. Our most valuable agent for this is iron, and this must be used with perseverance on the part of both doctor and patient. Should the digestion be unweakened, the best preparation according to Proffessor Stoffella, is the sulphate of iron in the form of Blaud's pills. Niemeyer's formula for these is—

℞. Ferii Sulph. pulv..............................
Potass. carb. pur.............................. āā ℥ss.
Mucil. tragacanth..............................
Q. S. Ft. mass. et div. in pil. xcvi.

Of these Professor Stoffella gives three thrice daily, immediately after meals, to prevent cardialgia. Should constipation be present, add jalapin or extr. aloes aquos. Where digestion is weak, Professor Stoffella recommends the milder pyrophosph. ferri et sodæ solutum. The iron treatment must be continued for several months, combined with quinine or extract of quebracho should the dyspnœa and chest oppression be troublesome. When the degeneration occurs as a consequence of valvular disease, he would also give digitalis or quinine. The alkaline mineral waters, mildly purgative and containing iron, usually benefit much. The diet ought to consist principally of lean meat, with green vegetables, bread, milk, and a fair allowance of wine. All fats, potatoes, beer, brandy, etc., are to be excluded. The carbo-hydrates, fat, and gelatine must, however, be allowed in restricted amount, as otherwise, from the difficulty of oxidizing albumen, muscular reparation and animal warmth suffer. Also, nausea and disturbance of digestion result very soon from an exclusively flesh diet, as seen in the Banting cure. —*Medical Times and Gazette*, Oct. 1, 1881.

QUININE IN PSEUDO-MEMBRANOUS CONJUNCTIVITIS.

For pseudo-membranous, or diphtheritic conjunctivitis, Professor Tweedy (*London Lancet*) uses a lotion of five grains of the sulphate of quinine with one drop of dilute sulphuric acid to an ounce of water. "As far as possible the diseased surfaces were kept constantly bathed with the solution, the conjunctival sac being converted, as it were, into a trough holding the quinine lotion. A bowl of the solution was also placed within reach of the patient, who washed the eye frequently and kept a well soaked compress constantly applied in the intervals. Besides these applications by the patient and by the nurse, the house-surgeon visited each case three or four times a day. On these occasions the lids were everted and the conjunctival sac thoroughly cleansed with the quinine solution. The superficial disintegrated portions of the exudations were then gently removed with wet lint, care being taken not to aggravate the inflammation by rough handling or by rude attempts to tear off the pseudo-membrane. In two cases the local application of powdered quinine was tried at first; but in addition to causing great pain, the powder did not appear to be so beneficial as the quinine in solution, and was therefore soon abandoned.

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ORIGINAL ARTICLES.

PROSTATIC AND ISCHIO-RECTAL ABSCESSES FOLLOWED BY PYÆMIC SYMPTOMS, BUT TERMINATING FAVORABLY.

BY VICTOR C. VAUGHAN, M. D.,
Assistant Professor of Physiological Chemistry in the University of Michigan.

Probably small abscesses involving the glandular crypts of the prostate and finally opening into the urethra are not very rare, but fortunately large abscesses of this gland pointing into the rectum are rare. Sir Henry Thompson, in his valuable treatise on "Diseases of the Prostate" (1873, fourth edition, page 70 *et seq.*) describes a case upon which he made a post-mortem examination. Fourteen days after the commencement of a severe gonorrhœa, the patient, age twenty-five, suffered from pain and fever in the loins. The urine was drawn with a catheter and with a gradual decline the patient died on the eighth day. The abscess had destroyed the greater part of the prostate gland and opened by two orifices into the prostatic urethra.

During the latter part of November, 1881, F. C. W., a medical student, age about twenty-five, labored one night very vigorously removing heavy articles from a burning building. While yet over-heated he was drenched with cold water thrown by the engines which had been brought into action to subdue the fire. In a few days he suffered from severe inflammation of the kidneys. The pain in the lumbar region was severe and the urine contained marked traces of albumen and a few blood and pus corpuscles. By the use of hot hip-baths, demulcent drinks, and by rest in bed, the graver symptoms disappeared in a few days, and the patient, contrary to advice, resumed his attendance upon lectures, sitting on a hard bench from 9 to 12 A. M., and at work in the dissecting room from 1 to 5 P. M. The urine still contained traces of pus and there was some soreness in the neck of the bladder. The trouble undoubtedly was constantly being aggravated by the daily labors of the sufferer. About the middle of December he visited my office when I again examined the urine and finding considerable pus, recommended infusion of buchu and rest in bed. On the 20th of December, there was neither pus nor albumen in the urine, but there was great pain in the region of the prostate, and this pain was greatly aggravated when at stool. December 24, on being called I found the temperature in the mouth 103, the countenance expressive of great pain and the pulse rapid and feeble. On passing my finger into the rectum I found two large abscesses, one involving the prostate gland and the other on the right side of the ischio-rectal pouch. The latter I opened and obtained about half an ounce of vile pus. Microscopical examination of the discharged contents showed the presence of bacteria in large numbers. It is proper to state that some pus had previously been passed at stool. On that day I did not dare to open the prostatic abscess. While Sir Henry Thompson taught in 1873 that a prostatic abscess should be freely opened, we now know that apparently trivial operations about the neck of the bladder in debilitated persons often prove disastrous. Moreover, I thought that there might be some connection between the two abscesses and that the opening made might prove sufficient.

On being sent for the next day I found the patient in an alarming condition. The pulse was small and rapid, the corneæ were clouded, respirations were difficult and painful, there was some cough, and the patient lay in a semi-conscious state; evidently the systemic effects of the septic matter were manifesting themselves. The urine was normal, containing neither pus nor albumen. The prostatic enlargement, as felt through the rectum, was tense and hot. The conditions seemed to demand the removal of the contents.

Ably assisted by Dr. T. J. Sullivan and by Messrs. Jordan and Skeels, medical students, we administered ether as the patient was sufficiently conscious to complain bitterly of pain produced by the manipulations. I then introduced the needle of an aspirator and removed about half an ounce of fetid pus streaked with blood. The condition of the patient had by this time become in the highest degree alarming. The radial pulse was barely perceptible, the extremities were cold, the muscles of the face began to twitch, the collection of mucus in the trachea produced a rattling sound and a cold, damp sweat bathed the forehead. The tongue was brought forward, ten drops of the aromatic spirits of ammonia were given intra-venously, the limbs were ligated and the head lowered. The ammonia brought back the pulse, and after half an hour of active anxiety we were rewarded by evidences of returning consciousness.

During the remainder of the day, and during the night, the patient was restless and anxious. Morphine was administered but it caused such a profuse and exhausting perspiration that its administration was not repeated. On the second day the temperature was 104½, when five grains of quinine was ordered. Within one hour after the administration of the quinine the temperature had fallen to 101 and the patient then complained of a chill and the pulse went up to 140. Small doses of brandy were given repeatedly and the body was surrounded with rubber bags filled with hot water. This experience made us careful in the use of quinine, and subsequently it was given in two grain doses whenever the temperature would reach 103, then there would within a few minutes be a fall of from one to two degrees. I never knew of a like effect from quinine.

The treatment otherwise consisted in the administration of teaspoonful doses of brandy diluted with as much water, every half hour. The patient was still sleepless and restless. During the latter part of the night, I gave two and one-half drachms of bromidia. This produced an interrupted but refreshing sleep. However, either from the chloral or from some other cause the pulse ran up to 160 and became very feeble. The administration of a teaspoonful of brandy would bring the pulse down to 120, where it would remain for some minutes and then would gradually grow faster again, unless the brandy was repeated. Therefore it became necessary to give small doses of the brandy every half hour, even when it was necessary to awaken the patient.

On the second morning after the operation the rectum was thoroughly washed out with warm water to which some carbolic acid had been added. The returning fluid was extremely offensive to the smell and contained much pus and blood. On this day the patient began to evince some desire for food. The food consisted of milk and lime water and egg-nog. Great care was taken in the administration of the food, and it was given repeatedly and in small quantities.

Each morning the rectum was washed out thoroughly, and so much blood passed that it became a serious question whether or not it would be well to inject some styptic fluid. On the fourth morning we used a saturated solution of chlorate of potash after the rectum had been thoroughly cleansed. The pain caused by the chlorate of potash solution was very great, and had I a similar case I would not dare repeat this part of the treatment, but would use a weaker solution. However, after this injection the discharge was very small in quantity.

It is needless to give further details concerning this somewhat peculiar case. The appetite improved wonderfully and in a few days our invalid was taking over two quarts of milk per day. As the rectal pouch is subject to the distension from fecal accumulations, the diseased surfaces healed slowly, and two weeks later, when the young man, again contrary to orders, resumed his work, the return of the pain proved more effective than the advice of his doctor, and a six months vacation was deemed wise.

SOME ASPECTS OF MODERN PHYSIOLOGY.*

BY HENRY SEWALL, PH. D.,
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It is a common question frequently asked by laymen in reference to each one but the most manifestly bread and butter subjects, "Of what use is it?" That is a query full of meaning, which has formulated itself after ages of mortal struggles for existence. The question is almost automatic, suggested by the dim inherited consciousness that life is too short and study too painful to be squandered on unfruitful subjects. Every one has a right to ask that question; but to be able to answer it definitely, favorably or unfavorably, is sometimes beyond the power of the most far-reaching thinker. But it is the exquisite charm of nature that she is not erratic; under the same conditions she will always repeat herself. Every phenomenon is genetically linked with every other of the universe. Among nature's atoms there are no dead-heads, and in her laws no dead letters.

If the processes of the living body are apiece with this cosmic organism, if they invariably follow in like manner like conditions, the man who studies them, the physiologist, may well look with the eye of faith to future ages to show the relations with the universe of the phenomena, if not of life, at least of living matter. So far as the phenomena of the body, if such there be, are not predictable from a knowledge of conditions, and cannot be modified in a definite manner by changing the latter, the physiologist has nothing to do with them. It is nearly superfluous to say then, that our knowledge of the body as of nature, is gained by observation through a use of the senses, and that the reach of that inspection and the full perspective of facts in both cases is immensely enhanced by the use of experiment.

Up to about the time of Harvey and Descartes, physiology was a subject of speculation and not of experiment.

*The opening lecture delivered before the medical classes of the University of Michigan.

It was not conceived that the actions of the living body were the results of phenomena that had any analogues in the physical world, that there was any measurable relation between cause and effect in the body. The subtle principle of vitality fled, as it were, hither and thither in her castle and mocked the seekers questions.

Descartes was the first to show the way which he who would *know* must pursue, and though he plunged the whole subject into a sort of crude materialism he pointed out the road by which the philosopher's stone of experiment was to be found. Descartes regarded the body as a machine, like a clock, with a central driving spring, the soul, which stored up in the brain, ramified through and gave activity to the organs.

Gradually, however, it was found that the organs had a life of their own. Haller showed that a muscle had independent irritability and that contraction did not depend upon the rushing of "animal spirits" down the nerve and their swelling out in the muscle, for the muscle cut out of the body could be made to contract as well as when within it.

It was shown by one and another that all the essential phenomena of highly organized beings were exhibited by lowly creatures devoid of structure; and finally that animals highest in the scale were made up for the most part of characteristic tiny bodies, the cells or things derived from cells. To the animal cell then, by the clearest process of logic, all the vital functions of the body were attributed.

These cells differ in form for every organ of which they form a part, and their combined action in any organ determines its function. Hence, one of the most evident problems of physiologists is to discover the part played by cells in so far as they determine the functions of the organs or tissues which they make up. This is the superficial or preliminary branch of the science, and to it must be devoted the first energies of the investigator. But there is another way of looking at the cell, the physiological individual; that is as a piece of living matter. What are its properties? What its sources of power? How is it affected by external conditions, and what is the bond uniting all such matter?

Let us see if there is anything peculiar about the animated substance, this vehicle of vitality, which distinguishes it definitely from all other substances. If you look through your microscope at a branch of the living green water plant, Vitella, or hair from the flower of Tradescantia, you may see streaming up the walls of their long cells a silent colorless current, which circles round and round its prison confines, here and there breaking up into tendrils and branches, which for a time move independently and then fuse with the main stream.

If you study in the same way almost any drop of stagnant water you may see hosts of tiny, colorless specks, which continually change their form, which are born, feed and reproduce themselves and die.

This matter, whatever it is, that thus lives, is called Protoplasm. What the chemistry of the living protoplasmic molecule is, we have no idea. Any method of analysis drives out its life. When the dead substance is pulled apart it is found to consist of few elements—carbon, hydrogen, oxygen, nitrogen, with traces of phosphorus and sulphur, and some salts. It consists largely of water and probably contains residues of *proteids*, *fats* and *carbo-hydrates*.

Every bit of protoplasm that lives is continually taking something up into itself and passing something else out of itself; taking in food and passing out wastes. If the mass of food taken in for a given time were compared with that of the wastes cast out in the same time, they would—the weight of the protoplasm remaining the same—exactly balance and the elements would be identical. How then does this matter show all the signs of energy of which it is capable. Is it the quality of living matter to generate energy *de novo?* If you compare these equal masses of ingesta and egesta of the *animal* you will notice a constant striking difference in their chemical constitution. The food matter is made of more complex molecules than the waste. The food is at higher chemical potential or contains more potential energy than the waste. The ingesta, when completely burnt, gives off more heat than the egesta treated in the same way.

Therefore the food matter has lost energy in the body, and we ought to expect manifestation of that energy to be made by the protoplasm. How this energy, lost to the food in the body, is disposed of there it is not our present object to discuss. Suffice it to fix the main conclusion, that wherever there is a manifestation of life there is an absorption of matter from without, and a loss of energy to it within the living body.

But look for a moment upon the life history of the green plant and we come apparently upon a kind of life and living process totally different from that we have considered.

The animal protoplasm is built up by the constructive power of the energy which the highly complex food matter has given off in breaking down to the level of egesta.

As we know, for example, that the building we are in represents a certain amount of constructive energy which was lost to the workmen who made it.

But in the case of the green plant the food matters are stable mineral salts, gas and water, which contain little potential energy. Is the plant then able to manufacture the energy which is represented in its complex substance? Take the light away from a green plant, it grows pale, absorbing oxygen and giving out carbonic acid like an animal, but finally dies. Bring the light to it while it languishes; the plant freshens up, absorbs carbonic acid and gives off oxygen. It can be proved that the carbonic acid is decomposed; that the decomposition is due to the disrupting energy supplied by the sunlight; that the instrument by which the sunlight is thus annihilated as such, is the green plant matter chlorophyll. For every molecule of plant substance that is made then, there is absorbed by the plant a certain quantity of sunlight energy; and the difference between plant protoplasm and animal protoplasm lies in the fact that the former has a powerful servant, chlorophyll, which is able to convert the wave motion of light, which directly of itself is useless to the vegetable protoplasm into chemical energy capable of tearing to pieces stable bodies like carbonic acid and building out of their residues complex structures. We may metaphorically speak of the metallic circuit of an electric lighting apparatus as the plant substance, the electric current as the sun's energy and the tiny carbon or platinum thread as the chlorophyll by means of which that energy is converted into another and useful form.

If there be this essential identity in the structure and functions of all living matter, the proper method of arriving at a true conception of the nature of these in the most complex individual is to study first the simplest body in which they are manifested.

An example of such a simple organism is furnished by the living white blood corpuscle; still better by a tiny inhabitant of stagnant water, known as the *amoeba.* This is a microscopic colorless mass with a firm hyaline border and a more fluid granular interior.

Watch it under the microscope and the amoeba is seen to be nearly continually in motion; now there projects from one side an extemporized arm of its body substance and into this flow the contents of the animal, the opposite border of the animal following the motion, and this change of form and place occurs indifferently in any direction. The motion bears no resemblance to that tremulous movement which all finely divided inorganic particles have in a fluid—the so-called Brownian movement. It bears no likeness to the stretching and relaxation of a rubber band. It is true *contractility.*

Our amoeba is nearly continually in motion, whether it moves or not or what direction it follows cannot possibly be predetermined; so this living speck possessed the wonderful property of *spontaneity;* which is simply a term to indicate change without *apparent* cause.

If by proper means you pass an electric shock through the amoeba all its processes are drawn in and the creature becomes a rounded, motionless mass. Or if in its wanderings it strikes against an obstacle, it immediately turns off in another direction where the path is free. The amoeba then possesses *irritability* through the excitement of which it attains a sensation of contact.

When one part of the living mass is excited in this way, the result shows that the stimulus has permeated the whole body of the animal; it possesses therefore *conductivity*.

None of these properties could be of use to the creature if it existed alone. In order that the perception of external conditions should be of use and that the contractions should be of avail, the motion of every part of the body must have a purposeful relation to that of every other part. That is the case, and the animal possesses the power of *coördination* by which one concrete activity is realized from the fusion of many separate ones.

Such a body as this when it comes upon a piece of matter good for food throws its body round and engulfs it, and now this food is chemically changed from its former condition of plant or animal matter and becomes to a greater or less extent *amoeba* stuff. This process of making a foreign body like itself is *assimilation* and *assimilation* leads to an increase in size of the amoeba, or *growth*.

Inanimate objects may also increase in size as a crystal or a snow-ball rolled over the snow. But in these cases the growth is by *accretion;* each new particle is laid in a definite layer on the outside of those already deposited.

When a living organism grows, however, it increases throughout its whole thickness, the new molecules find their way equably between those in the uttermost parts of the structure. This is growth by *intussusception*. In the same sort of way you get an equable mixture of two gases, like *oxygen* and *nitrogen* when they are put into the same vessel one on the top of the other.

As a matter of observation you know that the growth of any living organism has its limit; and the reason is plain. It requires expenditure of energy to effect changes in food matter taken in to build it up to a higher chemical level; such energy must in the end be produced at the expense of the substance of the amoeba itself, leading to a chemical degredation of part of it; this broken down part is no longer fit for working material; it is *waste* matter and must be cast out.

Now the amount of food taken in must depend upon the absorptive surface of the amoeba, while the amount of chemical changes effected and consequently the weight of waste matter depends upon the mass of the animal.

It is well known that when a body, like a sphere, increases in size its surface increases as the square of its diameter while its mass increases at the cube of the same; hence in our amoeba a point is sooner or later reached where the mass is so great compared to the absorptive surface, that the weight of egesta resulting from chemical change in tissue and food matter just balances that of the ingesta.

But this living creature has a remarkable way of circumventing, as it were, this limitation to its growth, and it is to this property that the propogation of the species is due. When the amoeba has been well fed and is under favorable conditions, its nucleus elongates, as does the whole body of the creature. The nucleus begins to pull itself apart into halves; the general amoeba substance behaves in the same manner. Little by little this separation becomes more complete till, finally, we have complete division and two new ameobæ as the result of it, each of which begins its new life by feeding and growing as did its parent.

Finally, this living protoplasm has some peculiar power of self-protection in regulating the nature of substances that shall diffuse into it. Put a living amoeba into a staining fluid and its body remains colorless, the dissolved pigment cannot penetrate it. As soon as the creature is dead, however, the color passes into and stains it deeply.

The higher animal body exists at first as an egg, a single cell with more or less of the characters described as pertaining to the amoeba. But most animals have a *developmental history* in which the original cell by division gives birth to multitudes of others and these separate into unlike groups and thus *differentiated* become the bases of the various *tissues* of the body. The cells which thus come to make up the adult tissues look very differently among themselves. They are usually made up of a granular protoplasm in which is imbedded a nucleus with nucleoli and each may be surrounded by a distinct cell membrane.

During development more or less matter is laid down as a bed between them, so that this cellular and intercellular matter makes up and characterizes every part of the body.

Now as with development there proceeds a differentiation of tissues, there is at the same time a *physiological division of labor* in the body; so that the fundamental properties spoken of above are not now all performed to the same extent by every part but are restricted, this function to one, that to another organ or tissue. The advantage of this specialization to the perfection of the whole working organism is obvious.

That community is savage and of little social influence in which every man is sufficient unto himself; where he is his own butcher, carpenter and shoemaker. On the other hand, civilization becomes more perfect and the community more powerful, the more minutely these different tasks are distributed among special individuals. In the same way the bodily organism becomes of a higher order and more efficient in every way, as the energies of various organs are directed into narrow and special channels. An animal tissue, like a man, may do one thing well but many things poorly.

We can then make a *physiological classification* of tissues which corresponds tolerably well with the anatomical one, though not perfectly, for one tissue may have more than one distinct physiological property.

Classified thus we can call our tissues by certain few physiological names which designate their properties, and in this way we can distinguish more or less definitely the following groups:

Undifferentiated tissues.—Including, embryonic cells; lymph and white blood corpuscles; many connective tissue corpuscles. We call them undifferentiated, not because each of these bodies may not have special hereditary proclivities, but because we cannot recognize any preponderant function pertaining to them.

Supporting tissues.—Cartilage; bone; connective tissue.

Nutritive tissues.—These fall into several subdivisions:

(1) Assimilative: *a*, secretory; glands; *b*, receptive; digestive tract.

(2) Eliminative or excretory; skin; lungs; kidney.

(3) Respiratory; red blood corpuscles; lungs.

(4) Metabolic; tissues which are more distinctly the seat of chemical changes which go to sustain the body at large; liver. More or less a character of all active tissues.

Storage tissues.—Liver; fat. A general character of all tissues to some extent.

Irritable tissues.—Recipients of impressions from the outside world. The sense organs and nerve endings.

Conductive tissues.—Also irritable. They transmit impulses generated in the foregoing. Nerves.

Coördinating and automatic tissues.—Nerve cells.

Motor tissues.—Cilia; striped and unstriped muscle.

Protective tissues.—Skin; hair; nails; bone.

Reproductive tissues.—Ovary; testicle.

No matter how specialized any tissue may be, we shall see that it is in continual physiological connection with all the rest of the body; and every change that goes on in it must make itself felt, to a greater or less degree, by every other tissue.

THE AMBULANCE HOSPITAL FOR SMALL-POX.*

BY HENRY F. LYSTER, A. M., M. D.
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At the close of a recent sanitary convention in Flint, those members who had come from a distance when about taking the train for their homes, were thrown into some consternation by the chairman of the convention, who had reserved his fire to send this parting shot: "You have all come here," he said, "and we have been delighted to meet you. You have

*Read at Sanitary Convention held at Ann Arbor, March 1, 1882.

called our attention to numberless sources of disease and death, but you have not told us how to detect and correct them. You have spoken of the danger to health from poisonous wells, but you have given us no simple tests by which we can detect impure water. You have spoken of the evils entailed by want of drainage and sewerage, but you have given us no plan by which we may proceed to drain and sewer our homes, under conditions which obtain at our residences whether in villages or on farms."

These sanitary conventions, if they are to be productive of the greatest good, are not intended to be merely suggestive and theoretical, but they must be practical, and while the awakening of the people to the great truths of sanitary science is of the first importance, the ready application of these truths to their every-day life and modes of living should immediately follow so far as it is possible to make them do so.

We have all heard recently a good deal about small-pox, and are all aware that every few years the disease seems to get a foothold, as it were, in the State, and appears here and there, usually on some of the great thoroughfares of travel.

Small-pox has been present at every port of emigration in Europe during the past year, and consequently it has been largely imported and spread far and wide in our own country by emigrants. Fortunately we can boast the enlightenment which has made our people appreciate and practice a very general vaccination, and it is to this fact solely that we are spared to-day a pestilence which otherwise would be decimating our people.

I have the official reports of the Registrar of Vital Statistics, Dr. Baker, which show how insignificant the proportion of small-pox has been during eleven years in this State, from 1869 to 1879 inclusive:

	SMALL-POX.	SCARLET FEVER.	DIPHTHERIA.
1869	42	252	89
1870	9	852	121
1871	73	696	121
1872	302	565	192
1873	90	578	217
1874	18	440	213
1875	26	423	207
1876	76	399	311
1877	102	404	593
1878	6	429	887
1879	6	418	1473

While scarlet fever and diphtheria have been very formidable, and the latter has been particularly alarming in its progressive increase from year to year, small-pox has only within the past six months become of more than ordinary interest, and is, owing to a very general vaccination, not likely to prevail to any great extent, but on the contrary will undoubtedly rapidly diminish, if not entirely disappear. It is necessary, however, in all large towns and cities for the sanitary authorities to be prepared to meet it, and to be able to protect the people from it when it is found to be present even in a single case. In the large majority of instances the first cases occur among travelers, who stop temporarily at hotels or other public houses, or oftener still the disease is introduced by some vagrant who finds his home wherever daylight leaves him. It is not always wise, and indeed sometimes not possible, for obvious reasons, to turn the house where the patient may be found, into a hospital for small-pox, and a pest house, or a hospital for contagious diseases should be furnished by every municipality, to which all such patients may be transferred. I believe these are facts which no one will dispute.

The plan of cottage hospitals, built and maintained as they are in England, will, we trust, become more general in this country, particularly in manufacturing towns and small cities, in which cases of accidental injury and illness of serious type occurring, not only among the poor, whose homes are but slenderly provided with comforts, but how tenaciously clung to in sickness, but where that large class who board in private families or at hotels, may be properly cared for by scientific physicians and trained nurses under the best hospital regime, but under more homelike conditions and surroundings than are obtainable at large general hospitals. Yet these institutions, when constructed, can hardly be directed from their legitimate objects to bear the burthen of a small-pox annex. A permanent pest house may have certain merits, but however successfully the rules of disinfection may be applied, there are economical reasons which, except in very large cities, or in ports of entry for emigrants, weigh heavily against the advisability of their construction, and relegate them to the past, where they belong. The small-pox hospital will deteriorate the value of property wherever it may be situated, as far as it can be seen, or at least to the extent of a mile distant in every direction, and people do not like the idea of building a residence on a street through which every case of small-pox will always be brought to reach the hospital. In the history of small-pox this fact stands indisputable, that with the decrease of its extension among the civilized world, the mortality from many other forms of disease is lessened. The constitutions of the people do not suffer to-day as they did in the last century, when fully one-tenth of the population died from the effects of this fearful pestilence, and the people are better able to withstand disease than when the latent constitutional affections, when present, were given the opportunity to develop themselves as they will do when the physical system is severely tried and undermined as by an attack of small-pox. The erroneous popular idea that an attack of this disease purifies and renovates the blood, and renders the fortunate survivor more capable and better fitted for the remainder of his life to resist other severe forms of disease, particularly constitutional and chachetic diseases, is only equalled in its falsity by the growing belief in the danger and ineffectiveness of vaccination, as typified in the recent letter of Mr. Bergh, of New York, in the *North American Review*. Mr. Bergh is not the only apostle of this school, but we find them in every city and village of this continent. After the treatment of small-pox had been very beneficially modified by the great Sydenham of London, in the eighteenth century, who instituted a change from the depressing and depleting customs then and previously in vogue, and advising fresh air and the warm bath instead; there came the introduction from the east of the plan of innoculation the old treatment of the Chinese and Turks, of wonderful effectiveness and value to those employing it, superceded by the remarkable discovery of Dr. Jenner, of the protective value of vaccination, and now comes from the same country, not only the doubt of the advisability of vaccination, but the organized opposition to it, and we are asked to relapse into the same unprotected condition as were the people in the last century. If vaccination were not very generally practiced in this State we would to-day be suffering from an epidemic of small-pox as much more diffused, as our modes of communication are more perfect, and the movements of the people more general than they were in the last century.

I have never seen an unvaccinated anti-vaccinationist, and I do not believe that one can be found. They have generally had themselves and their families well vaccinated, on both arms, before adopting the new skepticisms on this subject. The most serious results will follow the loss of confidence in vaccination, as it will lead to negligence and inattention, and worse, opposition, and subvert any attempt on the part of sanitary, and other legal authority, to perfect a system of general vaccination and revaccination. We must rely on this practice to prevent the spread of small-pox. No system of quarantine or hospital management is worth anything in comparison, no matter how rigidly enforced, or how well ordered.

Suffice it to say upon this subject that since small-pox has been, through the universality of vaccination, reduced to a minimum, and while this practice is general it will be among the diseases least frequently met with. The general weight of opinion among those who have given much thought and study to the subject of infectious and contagious diseases, is against the aggregation of the sick in large numbers under one roof, except under the most favorable management in regard to ventilation and cleanliness, and disinfection. The controversy in regard to hospital construction has been, within the last few years, conducted in the light of large experience and magnificent opportunities. Just as the decision had been given in favor of the pavillion plan and separated wards, the introduction of great cleanliness and thorough disinfection restored to a certain extent this value of large hospitals—at least the necessity for hospitals in densely populated districts in large cities demanded their continuance.

The field hospitals in the rebellion and the ambulance hospitals in the Franco-Prussian wars were the same. They were composed of tents of heavy cotton cloths, and were used as flying hospitals capable of being put up or taken down in an hour or two. The regimental hospital tent was sixteen by eighteen feet, with walls four and one-half feet in height, and with the ridge pole eleven feet from the ground. This was covered by a tent fly. This hospital could be put up in twenty minutes, and could be taken down and packed for the wagon trains in an equally short time. Many of those present this evening can attest to their excellent adaptation to the service from long personal experience. I have used them over four years in Virginia in the different seasons, and have treated the various forms of disease incident to the army in the field and camp, including small-pox, without desiring better quarters, or the plastered ceiling and brick walls of the permanent hospital. Tents can be made very comfortable in this climate even in winter for small-pox, and in the warmer season of the year they are admirably adapted to ventilation by opening the walls and permitting the air to circulate freely in them.

When the ship load of immigrants, sick with the typhus or ship fever, lands upon our coast, and the passengers sick and well are encamped upon the beach under the tarpaulins, the germs of this disease disappear as if by magic, the sick who are not in the very last stages recover, and few if any new cases appear. In a week or two, all are well and the disease has disappeared. There is a very near relationship between typhus and small-pox, both are very contagious and infectious, and the germs of the disease hang about the individual, and the building and the apartment, and while those of small-pox are less destructable and exist a longer time as dangerous elements, yet the general rules which apply to the management of the one, are equally applicable to the other.

The recovery of patients from small-pox is largely in proportion to their rational management with reference to an abundance of fresh air. Tents may be constructed for convenience sixteen by twenty-four feet, with walls six feet in height and the peak or ridge-pole twelve or fifteen feet from the floor. Instead of tent-pins, which are liable to loosen after rain, fence-posts could be set in the ground with a tip-rail extending, and the guys or rope, could be fastened from one to the other to this. In case the weather was severe and the winds high, boards might be fastened to these posts on all sides of the tent, leaving a gateway for entrance. The most successful way for heating tents is by passing the heat under the tent through a pipe or having the fire in an adjoining tent, and a chimney at the opposite end outside of the tent, provided with a spark catcher to prevent fire.

The heat should, as a rule, be supplied at the floor. The colder the weather the better is a tent ventilated, the heat is inducted through the canvas, and the air is constantly purified in this way. A stove, a base burning coal stove, is preferable, may be used with a sheet iron jacket surrounding it and a direct inlet pipe from the outside, permitting the cold air to enter the tent inside the jacket. The pipe could be conducted to a chimney at the opposite end and outside the tent, where a double tent wall is needed, one tent may be a size smaller and pitched inside of the larger one, thence giving an air space between the tent walls.

Too much light is not desirable in small-pox, and sufficient can enter through the tent walls. Where a double tent is used, windows of a small size might readily be used for light and ventilation. Two or more of these wards could be joined together, as I have many times done in the army, and beautiful wards they were with their iron bed-steads and white blankets, and hopeful faces of the volunteers.

The floor should be of wooden planks placed upon sills. They need not be fastened together, but may be readily taken up and put down at will.

Wards, such as I have described, may be put up in a few hours, and when the necessity for them has passed away, they may be shut up tightly and pans of burning sulphur placed in them, according to the rules for the disinfection of rooms and dwellings, one pound to one thousand cubic feet of space. They may be washed with weak solutions of common carbolic acid, and the floors scrubbed and washed with any disinfectant wash that may be determined upon, and afterwards the boards may be taken up and placed in the air and sun, and the tent wards opened and left exposed to the air for a week or two, and then taken down, and stored away in some dry loft to be used when the occasion demands. The exact place where they are stored need not be advertised and the public will take it for granted that the health board have used their best judgment. This has been used as an argument. against the ambulance hospital, but it really, practically has no foundation. Disinfection can be so thoroughly carried out by the aid of heat and by chemical action of air and other agents that the tents will not retain the active poison of the small-pox. Huts or barracks may be used instead of tents or in combination with them. These have also been used for this purpose in many different countries and climates, and answered admirably for temporary hospitals. These can be constructed with double walls in winter or a single in summer, and the roof may be covered by tarred muslin to keep out the rain. These can be ventilated by windows and doors and may be heated as recommended in the tent hospitals.

When a double wall is constructed the lower outside bands may be hung on hinges all the way around the hut, and this can be opened to let in cool air when desirable. On each side of the ridge-pole, we may have a similar arrangement. In this way, and by windows and by transoms over the doors, we can thoroughly light and ventilate the barrack hospital at all seasons and in all weathers. The floor may be of plank, placed upon sills as already described. The size of the barrack hospital may be about the same as the tent hospital. These could be built so that persons might go from one to the other under cover.

In each of these hospitals screens could be used between the beds, and there should be at least two wards for patients, one for men, and another for women and children. These huts could be made in sections so that they might be disinfected and then taken down and stored away the same as tent hospitals. A frame of gaspipe could be put together and upon this the wooden sections might be placed, or a temporary frame of wood could be erected each time the hospital is erected.

Treatment of Disease.—In the Austrian army, 1854, the results of tent hospitals were very satisfactory. The most severe maladies ran their course much more mildly in the free air of tents and recovered more quickly and more perfectly than in the confined spaces of hospitals.

Experience from 1854 *to* 1860.—Typhoid fever in its severe forms were treated more successfully in tents than in hospitals, less than twenty-one per cent. of admissions proving fatal in tents, while thirty per cent. admitted to permanent hospitals died.

Small-pox.—In the tent cases, the eruptions came out quicker and better, and matured more rapidly, and the dessication and convalescence were not followed by any sequences. In permanent hospitals the course was longer, the stages less defined, recession of the eruptions was more common, after diseases, more frequent.

Wounds and Other Inflammations.—Of all cases treated in tents, these showed the most favorable results. In 1859, a number of wounded were sent from Italy. All severe cases were sent into tents, the slighter cases into wards. All the men in tents had a fresh, lively look, and contrasted very strongly with those in wards. In the wards, although doors and windows were left open almost the entire day, and the greatest care was taken with treatment, hospital gangrene occurred. All this was mended at once, when men were transferred to the tents. In no single case did a gangrene occur in the tents.

Fever and small-pox hospitals have long been established in many large English towns, but in many towns of any size, it has within a few years become usual to put up temporary hospitals. During an outbreak of cholera, small-pox, etc., ward, cubic space, two thousand feet per patient, and one hundred and forty-four floor space. In winter, warm to 60° Fahrenheit. For temporary emergencies tents are recommended or huts advised.—(Parke's Practical Hygiene, page 335).

In the Franco-Prussian war, 1870–71, and at the siege of Paris, the ambulance hospital tent was maintained during the winter and with the most gratifying results, "and at all times free from the slightest indication of infection by means of organic poisons, and the death rate exceptionally low." The stoves should be below ground and heat carried under the floor of the tent. This was sometimes used in the army camps with excellent effect, bestowing a gentle warmth in the tent.

Dr. Elisha Harris, Secretary of State Board of Health, New York, said in a speech, ——— —— ——— ——— ——— 1874, "In 1855–57, I caused the costly and imposing brick edifices which the State had erected for hospitals at the quarantine to be closed and locked, and removed all my patients into warm, wooden shanties, ventilated at roof, floor and section, all the beds. The mortality from small-pox and fever was only half as great."

In 1875, I had the honor in Detroit of opposing successfully before the Board of Estimates the erection of a beautiful brick small-pox hospital at Detroit, basement, kitchen and dining room, suit of rooms for the president and medicine officers and their families, magnificent cupola, flag-staff, American flag, and all that sort of thing.

This palatial structure was to cost at a first estimate ten thousand dollars, and was to be erected upon a small farm, purchased by the city, at Connor's Creek.

This hospital has not yet been built, but a less pretentious one has been erected, this at a cost of two thousand five hundred dollars, but as it was too far out, we do not propose to use it. I have suggested the ambulance hospital to the Board of Health, at Detroit, and while it has been favorably regarded by the health officer; it has not been adopted. The secretary of the National Board of Health, and the secretary of the Illinois State Board of Health, both endorse the views of a movable pest-house, and ambulance hospital for small-pox in cities.

The expense is small. Water can be obtained by wells or springs, or drive wells, or can be drawn in carts in barrels.

Communication can be reduced to a minimum. Telephone can be connected with the physician's office or health office. The right to erect the hospital here and there in outlying lots, can be easily obtained, either by the power inherent in a board of health, or by renting of owner. The fact that it is only for temporary purposes, reconciles the people to its erection, and the hospital when again constructed, may be in some other quarter of the city.

The several points in favor of the ambulance are cheapness, economic management, healthfulness and freedom, and the absence of a permanently depressing effect upon the property and the hindrance to the quarter of the city in which it is located.

SEVERE WOUNDS OF HEAD: RECOVERY.

BY R. W. CORWIN, M. D., SOUTH PUEBLO, COLORADO.

December 5th, 1881, while on a slope at the Hot Springs iron mine, at Hanmann, Colorado, altitude nine thousand feet, Mr. J. B. P., was thrown by a premature explosion to the height of about thirty feet into the air, and fell into a pit, fifty feet below the level of the point, at which he was working. The estimated amount of ore and rock displaced by the explosion was one hundred and thirty tons.

He was attended the same evening by Dr. Heimberger, of Saquache, who handled the case very skillfully. I saw the patient on the ninth of December, found the tenth rib, left side, fractured near its sternal extremity. Lacerated wound over the left eye and comminuted fracture of the outer table of the frontal bone, in the region of the supra-orbital ridge; laceration of the right cheek and fracture of right malar and external portion of the superior maxillary. Over left parietal a scalp-wound about six inches in extent, somewhat L shaped, denuding a portion of the bones of its periosteum and a simple fracture of the left parietal about three inches in length. Although the edges of this wound had been brought in apposition with sutures, the wound was now gaping, owing to slough. The greater portion of the body and arms was more or less contused.

Patient was conscious. Temperature, 104½°, pulse 125. Wounds were dressed with whiskey and water, equal parts; cold applied to the head, and a saline cathartic administered. He was left in charge of the local physician of the Colorado coal and iron mining company, Dr. F. P. Brown, and orders given to convey the patient as soon as possible to the company's hospital at South Pueblo, Colorado.

Patient arrived at the hospital on the morning of December 13th, after a ride of one hundred and fifty miles, with a temperature of 99½°, pulse 96, and in no pain.

December 14: Patient rested well, edges of scalp-wound granulating, but a surface, equal to two inches square over left parietal, devoid of periosteum. Edges of wound were drawn together as far as possible with adhesive strips and carbolized dressings were applied. Temperature 99°; in no pain, takes a good quantity of nourishment.

December 16: Temperature 99½°; pulse 82. Patient complains of pain over the left eye; wounds granulating nicely.

December 17: Temperature 100°; pulse 84. In less pain but cannot sleep. Bromide of potassium administered.

December 23: Abscess below and to the outer side of the eye opened, pus having burrowed frôm wound above the eye in this direction and formed a pocket at this point.

December 28: Opened an abscess over left eye just external to wound. On account of contraction of the lacerated masseter of the right cheek, as it heals, the movement of the jaw is considerably impaired. Mouth forcibly opened daily and a rubber wedge inserted between teeth.

December 31: An abscess below the angle of inferior maxillary on right side opened. Temperature 99°.

January 8: Doing well; no longer confined to bed. While dressing injuries of the cheek, the water injected into wounds finds its escape through the nostrils and by the mouth.

February 5: Frontal portion of the right malar discharged through wound of cheek. Scalp-wound nearly healed.

February 20: Several small pieces of bone removed from cheek.

March 16: Wound over parietal entirely healed. Since last date several more pieces of bone were removed from cheek and from wound above left eye. To-day a piece of iron ore came from the latter wound.

March 19: Two more pieces of ore discharged through the supra-orbital wound.

March 21: Patient discharged, cured and returned to his work at the mines saying, he would be blasted if he would do any more blasting.

CLINICAL NOTES OF TWO CASES OF SEVERE CHRONIC ANAL DISEASE.

BY DONALD MACLEAN, M. D.,
Professor of Surgery and Clinical Surgery in the University of Michigan.

The following cases constitute in my opinion, typical examples of a somewhat common affection, which is not infrequently misapprehended and mistreated.

F. G. age forty, of Larwell, Indiana, admitted to the University hospital December 1, 1881. Has had a painful disease of the anus for six years past. Has been frequently examined and has been subjected to numerous different methods of treatment. His case having been variously diagnosed as piles, fissure, stricture, fistula, cancer, etc. None of the many forms of treatment have afforded him material benefit.

The prospect of an examination excited much apprehension in the patient's mind, and his first request to me was that he should have an anæsthetic before anything of the kind was attempted. From the expression of the countenance, and the sallow color of the skin, together with the marked emaciation of the whole body, and the history of intense suffering detailed by himself, I was led to suspect the existence of malignant disease of the rectum, and I especially invited the attention of the class to those obvious features of the case.

An anæsthetic (chloroform) having been administered, I proceeded to make a thorough examination, the patient being placed on the back with the limbs held up over his body. With some little difficulty I forced my finger into the rectum, expecting to find some pathological condition that would account for the urgent symptoms complained of. Nothing abnormal could be detected by the finger. I then passed a full sized gum-elastic rectal bougie the whole length of the rectum without meeting the slightest obstruction. I then directed my attention to the region of the anus and there I discovered and was able to demonstrate to the class three things, which in my opinion summed up the diagnosis of the case. These were:

(1) Very tense spasm of the external sphincter ani.

(2) A hemorrhoid about the size of a large pea, situated on the very verge of the anus, of a bright red color and hard as cartilage.

(3) At the base of this hemorrhoidal growth, a small but deep ulcer.

The treatment was at once proceeded with and consisted in

(1) The removal by sharp scissors of the hemorrhoid.

(2) The forcible dilatation of the external sphincter, thereby putting a stop to its contractions for a time.

(3) I directed the daily introduction of a full sized bougie smeared with iodoform ointment.

When the effects of the chloroform passed off, patient complained of severe pain for some hours, but eventually became easier, so that he enjoyed a better night's rest than he had been able to do for a long time previously. The further progress of the case is quoted as follows from the hospital case-book.

December 14: Patient, before the class to-day, stated that he is free from pain and is feeling well.

December 17: Has had no return of the pain, bowels move quite naturally. Unable to give due expression to his feelings of gratitude.

December 19: Dismissed *cured.*

Case II.—Not long after the above case occurred, I was asked to meet Drs. Ewers and Hurd, of Union City, in consultation in the case of a farmer, fifty-five years of age, who had suffered more or less for upwards of twenty years from distressing symptoms, affecting the rectum and anus.

We found the patient in bed, considerably emaciated and in a very despondent state of mind. Being a man of more than ordinary intelligence, we were able to obtain a very clear history of his symptoms. Pain after evacuation had been a prominent and most distressing symptom, the passages were either fluid, containing much mucus and some blood or if at all solid they were ribbon shaped. Aortic pulsation was very marked and patient declared that it had existed for many years. On passing my finger and a bougie into the rectum, nothing abnormal could be detected. At the verge of the anus, however, there were numerous small flabby vegetations, resembling minute polypi, and the spasm of the sphincter was very great.

Chloroform was administered and I clipped off all the vegetations and then forcibly dilated the sphincter, and finally recommended the regular use of the gum-elastic bougie. Six weeks afterwards, in reply to a note of inquiry, I received the following from Dr. Ewers, which is the last I have heard of the case.

UNION CITY, March 14, 1882.

MY DEAR DOCTOR: More than two weeks ago, I saw our patient, and I found him so comfortable, that I was not to call until I received notice from him. This morning, one of his neighbors gave the same encouraging report. Should I see him soon, will write you. Hastily, yours sincerely,

H. F. EWERS.

I should state in conclusion, that when the sphincter was dilated, an enormous evacuation at once occurred, and *the aortic pulsation ceased immediately.*

MEDICAL NEWS.

LOUISVILLE has another medical college. This makes the fifth in that city.

DR. BROWN, professor of physiology in Detroit Medical College, has resigned his position.

DR. HENRY SEWALL, late of Johns Hopkins University, has begun his work as lecturer on physiology in the University of Michigan.

PROFESSOR JOSEPH PANCOAST and Professor Robert Bridges, both of Philadelphia and well known to the profession, have died recently.

CHEVREUL, the most distinguished of French chemists, is still, though in his ninety-seventh year, lecturing and conducting original investigations.

THE venerable Professor Gross, now seventy-seven years of age and desiring to lighten his labors, has resigned the chair of surgery in Jefferson medical college.

Dr. Gray, of Utica, is fast recovering from the wound inflicted by the would-be assassin Remshaw. It is a query to what extent the expressions of Guiteau's sympathizers are responsible for this dastardly attempt upon the life of Dr. Gray.

Several quacks have been arrested in Pennsylvania under the new law forbidding the "advertisements of medicines, drugs and nostrums for the cure of secret diseases." Some of these quacks are graduates of reputable medical schools, and one is said to be an ex-president of the (Philadelphia?) College of Pharmacy.

The College of Physicians and Surgeons of Chicago, will be opened next October. An elegant and commodious building is said to be in course of construction. We are informed by one of our exchanges that the attractions of the basement floor will be kitchens and dining rooms for day board for students, and a vat with a capacity of one hundred cadavers.

Dr. Formad, a member of the National Board of Health, has been prosecuting his studies of diphtheria at Lake View, Michigan. The Dr. was fortunate enough to find a rare specimen in the way of a pig, which died of diphtheria and whose stomach was found to contain the membrane, which was quite extensive, and had completely obstructed the pyloric orifice.

Considerable excitement has been raised in Grand Rapids, Michigan, over the death of a lady from Battey's operation. The coroner's jury rendered a verdict to the effect that the deceased came to her death from the operation performed by Drs, Herrick, Sligh, Hathaway and Griswold. There is talk of criminal prosecution; but the case will probably be dropped. The physicians claim that the operation was perfectly justifiable. They should publish a full report of the case in some medical journal.

Earache—"In the course of practice you will often be called upon to attend a case of earache. This means, pathologically speaking, acute inflammation of the membrana tympani. Now, in such cases you may quickly subdue the inflammation, relieve the patient from the excruciating pain he is suffering, and save him perhaps, from subsequent confirmed deafness. The treatment, from which such a very desirable result may be obtained, is similar to that which you will find so beneficial in analogous cases of eye diseases, namely, leeches behind the ear, hydrag. c. creta and belladonna powders, with warm fomentations."—Wharton Jones in *London Lancet.*—*Dental Register.*

TRANSLATIONS.

Translations from Russian Journals for THE PHYSICIAN AND SURGEON.
BY RALPH D'ARY, M. D., ROMEO, MICHIGAN.

CAUTION AGAINST IODOFORM.

Dr. Marx Shede, on the ground of his observations, asserts that iodoform has a very injurious influence on some people. It is the more dangerous because these idiosyncrasies cannot be known before hand, not presenting any distinctive symptoms, and because iodoform possesses cumulative properties, in consequence of which the effects of intoxication appear suddenly, without premonition, and with such violence that even the immediate removal of the iodoform dressing is frequently unable to avert a fatal termination.

Slighter constitutional disorders from iodine absorption can be frequently observed. They generally consist in a considerable rise of the temperature, which, however, is but of short duration. Sometimes the patients become irritable, suffer from headache, and complain that everything they eat tastes of iodoform, their pulse is quickened and sometimes reaches 150 and even 180 per minute, in adults, being small, soft and easily compressible. When these symptoms appear danger is imminent, and the iodoform dressing should promptly be removed. In some cases of poisoning, fever is the only symptom, and the temperature during several weeks does not descend below 40° centigrade, the patient's mind remaining clear, the tongue moist and the wound clean; in other words: no symptoms of sepsis being manifest. In these cases removal of the iodoform is useless, for the cases terminate fatally.

In other cases again sudden collapse sets in without premonition.

The most frequent and therefore most dangerous form of iodoform intoxication manifests itself in cerebral affections, either as an acute meningitis, or as a purely mental disease, which manifests itself in hallucinations, delirium and melancholia.

The diagnosis of these cases is very difficult. In view of the possibility of these consequences appearing in any one of the patients treated with iodoform the author thinks it altogether unwarrantable to fill large recent wounds with this potent drug, and advises great care in its use in surgery, advocating especially the use of iodoform gauze (prepared like the strips of cheese-cloth used for making plaster of Paris bandages). —*Med. Vestnik.*

[Before me lie reports from various sources, mostly German, on the action of iodoform. In one case a resection cavity was filled with sixty grams (nine hundred grains) of iodoform, in others the wounds were filled respectively with six hundred grains, one thousand and eight hundred grains, four thousand and five hundred grains, etc., *at once*, with successful results. In other cases three and one-half, five and seven ounces had been used in the course of treatment, with fatal results. Reading these reports one is at a loss whether to marvel more at the senseless waste of an expensive material, or at the *criminal* recklessness of the surgeons concerned. In Professor Billroth's clinic these abuses have been duly appreciated and put down. The article on iodoform in the December number, 1881, of this journal, gives directions how to obtain proper results with the least danger or waste.—TRANSLATOR'S NOTE.]

CHLORAL HYDRATE IN DIPHTHERIA.

Dr. P. N. Davidof, after describing the difference between the lighter forms of diphtheria occurring in conjunction with scarlet fever and the aggravated form of idiopathic epidemic diphtheria, relates the following very remarkable case (in the *Vratsh*):

Having been called in (on passing by) to see a little girl of seven years, I found her in a state of gradual asphyxia. The whole pharynx was invaded by the disease. For some time I observed with a sense of the deepest pity her frightful suffering, and listened to the ill-omened whistling respiration, which was so soon to be cut off altogether. There had been many epidemic cases in the same village, and all of them had terminated fatally. I therefore felt my utter want of power to help, especially as I had no adequate remedies with me. But I had some chloral hydrate; of this I dissolved five grains and gave them to the child. The result was astonishing. In ten minutes the breathing became easier, the whistling less shrill, and the child began to cough and soon after vomited, throwing out pieces of solid membrane. After that, she seemed to be a great deal more comfortable. I left some of the same solution, to be given every two hours. Next day the mother told me that the child had slept quietly during the night, although she still had a whistling respiration. When waking she coughed but slightly and ejected pieces of membrane. In a few days more the child recovered, continuing to take three grains of chloral hydrate every two hours, and only an obstinate hoarseness, which lasted over two months, witnessed to the gravity of the pharyngeal development of the disease. Since that time I have frequently prescribed the same remedy in cases where the larynx was being implicated, and with excellent results. I prescribe from three to five grains of chloral hydrate in solution, with mucilage and a drop of peppermint essence, every two hours, and the children seem to tolerate the drug very well.

[I beg to refer the reader to my account of a case of diphtheria, on page 76 of the February number of this year of THE PHYSICIAN AND SURGEON, which case I treated with chloral hydrate and turpentine, and so far as the local affection was concerned, very satisfactorily. Mine I believe to be the *first* recorded application of chloral hydrate in diphtheria, and Dr. Davidof's the second. I would respectfully invite the readers of this magazine to give the remedy a good trial, and to report the results.

Apropos of turpentine, I have lately treated another case of fully developed diphtheria in a woman, on Dr. Bosse's plan, with turpentine, as described on the above cited page. The immediate result was *exactly* like Dr. Bosse's, but the disease has left a protracted debility.—D'ARY.]

ON THE THERAPEUTIC USES OF RESORCIN.

Dr. J. Andeer has used resorcin during four years, in the following diseases:

(1) *Diseases of the bladder.*—His observations on one hundred and fifty-six patients have shown him that the aqueous solution of resorcin injected into the bladder is much more effective than any other remedy hitherto employed. In acute catarrh of the bladder (generally following gonorrhœa) two or three injections of a five per cent. solution effect a cure. In chronic catarrh of the same origin a five or ten per cent. solution is required. In *simple* acute catarrh one injection of a one or three per cent. solution is generally sufficient. He has completely cured one very inveterate case of cystitis with one single injection of a ten per cent. solution.

In cancerous diseases of the bladder fifty per cent. solutions act well as local antiseptics, and give excellent temporary relief (for several days). The injections are generally well tolerated. Only in the case of inveterate cystitis just mentioned did the fifty per cent. solution injected cause slight vertigo and noises in the ears. The patient was a very nervous woman.

(2) *In skin diseases.*—The author has obtained good results from inunction with resorcin ointment in scarlatina, variola, pemphigus, rupia, lepra, in all parasitical dermatoses, in bites of poisonous animals or insects, in septic wounds from instruments, in burns of every degree, and in ulcers. It is remarkable that loss of substance of the skin (as from ulceration) under the local use of resorcin is repaired *without cicatricial tissue*, such as generally is formed after the usual more or less caustic methods of treatment. The "resorcinated" surface is finally invested with its normal epithelium, in the same manner as the normal epithelium is restored in lesions of the mucous membranes, after cauterization.

(3) *In uterine diseases.*—Weakly, nervous patients endure with difficulty any injections into the uterus, even if the solution of resorcin is only of the strength of two per cent., and whether warm or cold, and generally pretty severe reflex symptoms take place. These injections are better tolerated, even if of greater strength, in those cases where there is a copious accumulation of septic secretions in the uterine cavity. Patients who do not tolerate injections, generally tolerate the introduction of resorcin in substance (in crystals) or in the shape of an ointment, on a tampon.

(4) *Enteric diseases.*—Resorcin acts well in cholera, cholera infantum, septic enteritis, bloody dysentery, typhoid, in poisoning from putrid meat (sausage poison) and various other accumulations of septic substances in the alimentary canal.

(5) *In ulcers and abscesses.*—Aqueous solutions act well, and are well tolerated when used as lotions. A *splendid* effect was obtained in one case of subcutaneous abscess with several fistulous openings, extending from the last thoracic vertebra to the pelvis. Drainage was employed simultaneously with the resorcin lotion. Even strong solutions, injected several times a day, produced no reaction.

(6) *In syphilitic diseases.*—When used locally, in the form of ointment, with glycerine or vaseline, resorcin acts very well on recent infiltrations and ulcers, on soft and hard chancre, and phagedenic ulcers, but only so long as general constitutional infection has not yet taken place. Where the constitution is infected, resorcin, without constitutional treatment, is useless. Where the latter is employed, resorcin acts well on local secondary manifestations. Indolent syphilitic ulcers under its influence soon change their character—the ulcerative process and fetor disappear rapidly; the granulations assume an intensely florid appearance, and are so full of blood that they bleed at the slightest touch. Even in very inveterate cases, where iodine, iodoform, phenol, camphor, and other similar remedies have failed the resorcin ointment does well.—*Med. Obozr.*

Professor W. Murrell describes a case of resorcin poisoning. Resorcin had been prescribed to a nineteen-year-old woman for spasmodic asthma. So long as the doses did not exceed from half a dram to one dram and a half, no unpleasant effects were noticed. Once, during an unusually violent attack, the patient was given two drams of freshly prepared resorcin. Immediately there followed vertigo, a sensation of formication or "pins and needles" all over the body, and in about ten minutes, loss of consciousness, abundant perspiration, pallor, dryness of the lips and a decline of temperature, until it reached 35° (centigrade) in the axilla. The stomach pump was then used and in two hours she was out of danger.—*Vratch.*

UTERINE INJECTIONS.

With regard to injecting resorcin solutions into the uterus, and the consequences of it, I would beg to make a few practical remarks, which I trust may be of benefit to some of our younger colleagues in the practice of gynecology. In reading paragraph three of the above abstract from Dr. Andeer's article, it seems clear to me that in his opinion the "*generally pretty severe reflex symptoms*" following the injection, are due to the effect of the resorcin. I have frequently met with similar sentences in my readings of medical journals, attributing the reflex symptoms to the irritant or specific effect of the drug used. This way of putting the matter is apt to create an impression, in the inexperienced young practitioner's mind, that injecting the uterus, in itself, is a perfectly safe and painless operation, provided the materials used are not of a nature that would cause irritation or "reflex symptoms." The operation is spoken of so glibly, so freely, and without a word of warning against rashly and incautiously undertaking it, that the beginner is often tempted to try it on the first occasion. Medical journals are read by the younger and more inexperienced practitioners probably more than by their elder brethren, simply because the latter, having a larger practice, can devote less time to reading. Hence I think that whenever any possible danger is likely to arise in consequence of any manipulation fair warning should be given in describing it. In perusing any of the better works on gynecology, we most invariably find it plainly stated, that even a drop of water, injected, purposely or accidentally (when syringing the vagina) will occasionally produce those reflex symptoms in their greatest violence. In practice I have several times had the misfortune to produce them, notwithstanding every possible precaution, and am now satisfied that it is not so much the nature of the application as the presence of a foreign substance (no matter how bland) in the uterus, which under certain conditions causes these reflex symptoms. And what does the vague expression—"reflex symptoms"—convey to the inexperienced practitioner's mind? I will try to describe them as I have seen them more than once, in various degrees of intensity. They are labor-like pains, grinding, remitting or intermitting, so intense sometimes that the poor woman writhes in agony, with ashy face, and cold, clammy perspiration standing on it in large beads, the pulse irregular, fast, and weak, the hands and feet cold, urgently indicating danger of collapse. Sometimes prolonged fainting follows. One woman told me she would never again willingly go through the same torture; she would rather have gone through the labor of childbirth twice, than to have endured that agony. This condition sometimes continues for more than an hour. Nor does it end there. Sometimes an obstinate metritis and parametritis is set up, adding to the suffering of the patient, and keeping her in bed for weeks, so that she may truly say that the treatment is worse than the disease. Not only liquid injections will produce this suffering, but also solid intrauterine bougies or pencils, no matter of what material or how medicated. The practitioner who would introduce an *anodyne* in either shape into a neuralgic or irritable uterus, with the view of relieving the pain, would make a sorry mistake. But these consequences, though frequent—much *too* frequent to be ignored, do not always follow. If they did, intrauterine medication would be an impossibility. The great question therefore, is: "When and under what circumstances can intrauterine medication be attempted without risk, or with a minimum of risk of exciting the above described consequences?" This question I will try to answer, in a few words, in so far as practical observation enables me to do so. I give my answer, however, with some degree of diffidence, and subject to possible correction, either by myself, after further experience, or by some one of our readers, and I would also call attention to the old adage, "No rule without exception."

Firstly, I would state that the "irritable" uterus does not bear internal medication. This irritability shows itself in various ways; there may be either spontaneous neuralgic pains, darting, stabbing, grinding, or "like the toothache," occurring apparently without any provocation. Or there may be an excessive sensitiveness of the uterus to the touch, or when it is attempted to slightly move it. Or, finally, there may be an almost constant sensation of *burning*, the location of which by women of the lower classes is generally described as "across me," with some backache. This burning sensation may occur in the absence of either intra-uterine or extra-uterine erosion or ulceration, and the uterus may be quite tolerant of palpation or motion.

An irritable uterus, is in a great majority of cases (but not necessarily always) a contracted uterus *i. e.* the internal os seems to be spasmodically closed, admitting with difficulty even the smallest rubber bougie. Whenever, therefore, I find such a condition, I proceed first in the most careful tentative manner before using any method of intrauterine medication. Such a uterus hardly ever contains any unusual amount of secretion. Even a uterus with a normally closed os internum is usually very intolerant of internal applications. In these cases I proceed in one of two manners. Before applying any remedies to the inner surface of the uterus I make sure of a wide, open, gaping condition of the inner os by gradual dilatation by means of tupelo tents. This seems to prevent reflex symptoms. Or else I use the remedies in the shape of gelatine bougies or pencils, (without dilatation of the os) which after being introduced into the uterus, dissolve in from one to two hours, and seem to be better tolerated than liquid applications. But, before introducing them I invariably adopt the following precaution. I tie a piece of stout thread to one end of the bougie, leaving it long enough to reach below the vulva, in such a way that it may be easily withdrawn by the patient herself, if severe pain should follow. When I find a subinvoluted uterus with gaping external and internal os, with flabby walls, I generally also find its inner surface and cavity bathed in some kind of abundant viscid secretion, which varies according to the nature of the uterine disease. In this condition almost any medicinal application, whether in form of ointment, liquid, or solid seems to be well tolerated. Dr. Andeer, in his article on resorcin confirms my experience by saying: "These injections are better tolerated, even if of greater strength, in those cases where there is a copious accumulation of septic secretions in the uterine cavity.

Before closing these remarks I must explain my reference above to the bougie: I hardly ever use the uterine sound. Instead of it I use the common rubber bougie, selecting the number to suit each case. It has great advantage over the sound, in the adaptability in size to the case in hand, and in not being so liable to cause injury. Where there is flexion of the uterus, it is sometimes next to impossible to introduce a sound, its end being caught in the baggy, atonic walls of the uterus. In these cases I take a bougie, withdrawing the wire, and place it for a few moments in hot water. This renders it perfectly pliable, and after its end is once engaged in the inner os, it follows the intrauterine curve without difficulty. When the fundus is reached, a piece of copper wire, with a nicely rounded end (so as not to tear the bougie), and of as large a size as possible, is then passed into the bougie with a slow, rotary motion. By this means the bougie is straightened, and with it the uterus, without any of the friction and abrasions caused by the sound even in the most experienced hands. This method of erecting a flexed uterus I consider far superior to the use of any sound, whether stiff or jointed. It converts a sometimes very difficult operation into an exceedingly simple and easy one, and does away with a great deal of irritation and injury to the uterus.—D'ARY.

Translations from French Journals for THE PHYSICIAN AND SURGEON.
BY R. A. PACKWOOD, LES ILES, BERMUDAS, WEST INDIES.

"TRANSMISSION OF RABID VIRUS FROM MAN TO RABBIT."

M. Raynaud communicating the results of experimental researches made, assisted by M. Lanuegue, on the transmission of rabid virus from man to rabbit, concludes on the inoculability of the saliva and the non-inoculability of the blood, these fluids being used from the living subject.

In a second series of experiment inoculations were made with different fluids from the tissues of the cadaver. Negative results followed the use of mucus from the buccal, parotid, and sub-lingual glands; but positive results were obtained by fluids from the submaxillary glands, lymphatic ganglions and sensitive nervous filaments.

Other inoculations were made from rabbit to rabbit, under the most varied conditions; with fluids from the salivary glands and lymphatic ganglions death ensued.

It remains to be known whether the disease thus communicated was really hydrophobia.

MM. Colin, Dujardin-Baumetz and Pasteur do not think it was. M. Raynaud, himself, favors the same opinion, for he has noticed the absence of the period of excitation, the short duration of incubation and the extreme rapidity of death. He further observes, in some cases, that the inoculated animals recover from the disease after a few days.

M. Colin considers that the disease induced by inoculation was only septicæmia. And M. Pasteur observed a different disease from hydrophobia, characterized by the presence, in the blood, of new microscopic organisms.

M. Raynaud attributes the singular differences in incubation and symptoms observed in hydrophobia from man and that from the dog to the inequality in the quantities of inoculated virus.

M. Jules Guérin is of opinion, that hydrophobia like the infectious or virulent diseases may have indefinite forms, which would explain the recovery of some inoculated rabbits. M. Gosselin suggests that to demonstrate whether this is indeed hydrophobia, will be to carry back the disease from rabbit to dog by inoculation—from the diseased rabbit to the uninfected dog.

M. Bouley took part in some new researches aided by M. Galtier, relative to the preceding; his results are: (1) That the virus in mad dogs is found only under the lingual glands and bucco-pharyngeal mucous. (2) That the virus may be preserved a certain time in the cadaver, or in some surrounding medium. (3) That absorption seems to take place immediately after inoculation; should treatment be resorted to an hour after or less it will not prevent the development of the disease.

M. Pasteur communicated a paper on the new disease induced by the saliva of a child who died from hydrophobia.

Having described the lesions which determined it, namely, swelling of the ganglions on both sides of the trachea, cellular tissue of the kidneys and axilla, which were almost always emphysematous, and having exposed the symptoms of the disease, he studied the character of the microscopic organism, which to him is the indispensable element of this new affection.

It remains to observe the effect of these micrococci when diluted, as has been done in chicken-cholera.

Translations from German Journals for THE PHYSICIAN AND SURGEON.
BY VICTOR C. VAUGHAN M. D.

THE USE OF HYOSCYAMIN IN NERVOUS DISEASES.

The employment of hyoscyamin in neuropathology is nothing new, since it was used as early as the middle of the last century by Stoerk, of Vienna, as a sedative in mania and various nervous diseases. Later, Fothergill and others made the same use of the drug. The alkaloid is now found in commerce in two forms, crystalline and amorphous. The latter is cheaper and is more effective in action and is especially suitable for subcutaneous use. Sepilli, at the insane asylum at Reggio, employs a one per cent. solution, and gives at a dose from .002 to .01 of a gram. A few minutes after the injection a gradually increasing dilatation of the pupil begins. The pulse loses from twenty to thirty beats per minute, and arterial tension is diminished. The saliva is lessened in quantity and the mucous membrane of the mouth becomes red and dry. Sometimes there is marked tenesmus of the bladder and rectum. Later the patient is quiet, there is slight hesitancy of speech, no diminution of sensation, but slight deafness, and finally aphonia. Reflex activity is heightened, and the countenance may be either anxious or pleasant from illusions and hallucinations. Finally after doses of from 0.008–0.01 gram there is sleep with marked diminution of sensation. After a few hours the graver symptoms disappear and there remain only slight mydriasis with difficulty of accommodation, dryness of the mouth and throat, lessened appetite, constipation and headache. Savage and others in rare instances have observed symptoms of collapse from the drug. Hyoscyamin quickly leaves the body, for the most part, through the kidneys, but in small part, by the bowel. Small doses increase peristaltic movements, while large doses lessen the same.

The alkaloid varies in its manifestations with individual peculiarities, sex (the effect upon women is more rapid, more intense and more lasting), quality of the preparation, dose and method of administration. After continued use, it loses to a great extent its effects. Hyoscyamin evidently influences the heart, but whether through the vagus or sympathetic is not known. It seems at first to excite and then to soothe the vasomotor system. This accounts for the increase in temperature from small, and the diminution from large doses. Hyoscyamin disables the brain and spinal cord. Besides the irritation produced on the nervous centers, it probably produces congestion.

Authors are even more at variance concerning its therapeutical effect and use than over its physiological action. However, all agree that it is sedative and hypnotic. Melancholia agitata is regarded by some as a contraindication to the use of the drug. In the common forms of mania, it produces at least temporary quiet. According to Seppilli the drug is of most value in periodical mania, and the main indications for its use are sleeplessness, excitement and destructive manifestations. As an antispasmodic it is used in paralysis agitans, epilepsy (especially status epilepticus), chorea, tabes dorsalis, etc., with a sedative but not a curative effect, Hyoscyamin may be called a chemical restraint and useful in many cases in which other narcotics fail or their more powerful action is not desired.

Seppilli begins with doses of 0.002 gram and gives subsequently from 0.005 to 0.01 gram subcutaneously once per day.

THERAPEUTICS IN DISEASES OF CHILDREN.

Resorcin in cholera infantum.—Dr. Totenhöfer has used reliable preparations of the drug in the treatment of this disease. Dr. Soltman recognizes three forms of cholera infantum. The first is an acute or chronic affection of the mucous membrane of the stomach. It calls for attention to diet, and the use of stimulants, astringents, and finally of opium. The second form is due to fermentation of food, notably of milk, in the intestine. It demands anti-fermentative treatment. The third form is due to putrefaction caused by local, unhygienic conditions.

Dr. T. has treated with resorcin ninety-one cases, twenty-four under three months of age, fifteen between three and six months, fifteen between six and nine months, thirteen between nine and twelve months, and twenty-four over one year. Of the ninety-one cases seventy-seven recovered and fourteen died. Of the latter all but three were complicated with other diseases. In the total number of cases this gives a mortality of 15.4 per cent., while the mortality from cholera infantum in the same hospital in 1878 was 34.4 per cent., in 1879 30.7 per cent., and under sodium benzoate treatment the mortality was twenty per cent. This is an excellent showing for the resorcin treatment.

Resorcin lessens the times of vomiting, does not produce collapse (nor render it more dangerous, when present) lessens the frequency of stools, is not irritating like carbolic acid, nor does it produce toxic symptoms in the doses needed. It was given without corrigerants and was well borne. It seemed also to aid the absorption of food, especially of dilute milk when given in small but repeated doses.

In children under one month of age from 0.1 to 0.3 gram of pure resorcin in 60.0 grams of chamomile was given. Collapse was treated with injection of ether, and peritonitis with tincture of opium.

Treatment of diphtheria.—Dr. Annuschat has been successful with cyanate of mercury (0.1–0.2–0.4 gram to 100.0 of water and a teaspoonful of this given hourly) in diphtheria. The local trouble is lessened within twenty-four hours, the membrane dissolves, the ulcers become clean, and the general symptoms are improved. The farther the disease had progressed, the less effective was the remedy, and it was valueless when the larynx was involved.

Dr. Rothe has also used mercury cyanate in diphtheria and considers it a specific. His formula is as follows:

℞.	Hydrarg. cyanat	0	02
	Tinctura aconiti	1	00
	Aquæ destillatæ	60	00

M. S. A teaspoonful hourly.

Dr. Gonterman's method of treating diphtheria consists in painting the parts with lime water every half, or at least every hour. During the night the intervals are from two to three hours. On the fourth or fifth day the exudate separates. In cases in which the painting was impossible on account of resistance of the child, milk of lime was used with a spray. The results were brilliant.

Dr. Guttman has used pilocarpin internally in diphtheria. This causes increased flow of saliva and with this the diphtheritic membrane separates and at the same time the constitutional symptoms diminish in severity. He has used it in sixty-six cases; of these fifteen were of the worst form, thirty-three were severe and fifteen were light. From his former experience in the treatment of this disease, he expected from thirteen to seventeen out of sixty-six to terminate fatally, but under the use of pilocarpin all recovered. Pilocarpin acts in a similar manner in other inflammatory diseases of the mouth ond throat, as in angina aphthora and tonsilitis. Pilocarpin is also a valuable agent in laryngeal croup. Dr. G. has had the opportunity to use the drug in four cases of laryngeal croup. Of these two died in a few hours after the administration of the first dose, because the asphyxia had already progressed too far. The other cases recovered. Dr. G.'s formula is:

℞.	Pilocarpini mur	0	02–0	04
	Pepsini	0	6–0	8
	Acidi muriatici gtt	11		
	Aquæ destillatæ	80	00	

M. S. A teaspoonful hourly.

For adults:

℞.	Pilocarpini mur	0	03–0	05
	Pepsini	2	00	
	Acidi muriatici gtt	100		
	Aquæ destillatæ	240	00	

M. S. A tablespoonful hourly.

After each dose Dr. G. gives children a teaspoonful, and adults a tablespoonful, of strong wine.

This medication must be carried through the night.

Poisoning with chlorate of potash.—Dr. Hofmeier reports a lady suffering from angina tonsillaris, who in thirty-six hours took into her mouth, and for the most part swallowed, forty grams of chlorate of potash. The symptoms were: Rapid breathing, frequent pulse, high temperature, deep dark-brown icterus, a cloudy urine, which on being filtered furnished a dark filtrate. The urine contained disintegrated blood corpuscles, and a yellow or brownish sediment. The spectrum of methæmoglobin in the urine was distinct. Blood drawn by puncture was dark, but histologically normal. Death from asphyxia followed in twenty-six hours. ·Postmortem: Both kidneys were enlarged and of a brownish-red color, and cut surfaces of the organ were brown. The ureters were filled with reddish-brown cylinders, which consisted of fragments of blood corpuscles. The marrow of the bones (thigh) and the spleen also were reddish-brown.

Chlorate of potash was first used in croup and diphtheria by Chaussien in 1819. Forty years afterward it was in general use.

Isambert first studied the action of the drug and showed that it was eliminated chiefly through the kidney and salivary glands. The method of detecting its presence in the urine is as follows: Acify the urine, then add a little indigo and sulphate of potassium. The chlorate is changed to a chloride and the free oxygen colors the indigo a yellow or green color, and oxidizes the sulphite to a sulphate. If fresh blood be treated with a solution of chlorate of potash, the blood becomes after a few hours dark-brown, syrupy and finally jelly-like. The corpuscles become pale and cremated, and congregate in irregular lumps and can be preserved for weeks without decomposition. By feeding dogs on chlorate of potash the same change in the blood occurs. The hemoglobin is decomposed and dissolved from the corpuscles. Secondarily the lungs, spleen and kidneys are affected. The ureters are filled with the cylinders already referred to. The urine even during life contains large quantities of brown cylinders and granules. The entire process seems to be identical with that of oxidation of hemoglobin as discovered by Hoppe-Seyler.

Treatment of croup.—Dr. Faludi treats croup with calomel, from 0.1 to 0.15 gram every half hour for four or five times. He combines this treatment with the inhalation of dilute lime water and, at first, by ice around the neck, and later by warm applications.—*Jarhbuch der Kinderheilkunde.*

SUBCUTANEOUS INJECTION OF ERGOTIN IN PSYCHOSIS.

Solivetti supposing that acute mania is due to hyperæmia of the brain and meninges has used ergotin hypodermically. In eleven cases (seven primary and four secondary) complete cure has resulted. For three or four days, six injections are made daily. The solution used consists of one gram of ergotin in six grams of water, and ten minims of this is injected at one time. After the use of two grams marked improvement is noticed. The same treatment has been used with success in two cases of status epilepticus, and in one of acute alcoholic mania, ergotin seemed to have a marked sedative effect.

USE OF PEPTONES IN SITOPHOBIA.

Lailler digests a kilogram of finely divided beef steak for twelve hours at 45° centigrade, with five litres of acidified water (twenty grams of pure hydrochloric acid) to which pepsin has been added (about six grams of pepsin to two hundred grams of meat). After from two to six hours the mixture becomes clear. The fluid is then filtered, saturated with sodium bicarbonate, and evaporated to a syrup, when it is ready for use.

SELECTED ABSTRACTS.

ADMINISTRATION OF BELLADONNA TO CHILDREN.

Dr. Jules Simon, in a lecture delivered at the Hopital des Enfants-Malades (*Gaz. des Hop.*, January 5 and 10), observes that belladonna is a medicine that is often employed with success in children, who in general bear it very well, just as adults for the most part tolerate it badly. The doses which he recommends are the result of the almost daily use of the drug, either in his hospital or private practice. As examples of its efficacy he alludes to its use in four cases, one of them occurring as far back as 1871, so that the employment of belladonna is no new thing with him. This case occurred in a boy three years and a half old, the subject of intense whooping cough, to whom he gave, on March 7, thirty drops of the tincture of belladonna to be taken in the twenty-four hours. On the 8th he ordered forty drops, and next day sixty, always in the same space of time. This last dose was continued daily until the 19th, not only without any accident but with great improvement in the cough. In two other cases, in boys four and three years old respectively, the dose given varied from fifty to sixty drops in the twenty-four hours; and in a girl thirteen years of age, with bad paroxysms of the cough, beginning with ten drops per diem, he gradually increased the dose to one hundred and twenty, without the slightest accident arising.

The powder and extract of belladonna are two preparations that may be very well associated so as to make very small pills, each containing a centigramme of extract and one of powder; and these pills are found very useful in combating the tendency to constipation in chlorosis. The dose of the tincture may be graduated as follows: From two to three years of age, five to ten drops; three years, ten to twenty drops; and above three years thirty to forty drops per diem—always, however, at this last age commencing with ten drops. The dose should in all cases be divided into two portions. Below the age of two the tincture is given only quite exceptionally, and then at a year old in doses of five drops per diem. Of the syrup the daily dose is one or two teaspoonfuls (five to ten grammes) for a child two years old, and two, three, or even four teaspoonfuls for one of three years. To the adult are generally given two tablespoonfuls, or about thirty grammes. When the neutral sulphate of atropia is employed, half a milligramme per diem should be given to a child two years old, gradually increasing the daily dose to two milligrammes. Belladonna may also be employed externally, as in arthritis and coxalgia, when a liniment may be formed of four parts of extract of belladonna and six of extract of henbane with sufficient quantity of oil of henbane. Sometimes also the extract of belladonna is added to mercurial ointment; and an ointment composed of neutral sulphate of atropia twenty to thirty centigrammes and benzoinated lard thirty grammes is very useful in relieving or even removing muscular pains in certain cases. "Belladonna is, then, a very active and in general well-tolerated remedy; and of all the preparations we have referred to, the tincture in medium doses of ten drops for a child two or three years old is the most employed, as also the syrup in doses of one or two teaspoonfuls for a child of the same age. I much prefer these two preparations to the neutral sulphate of atropia."

Turning to its physiological properties and therapeutical indications, belladonna may be described as an irritant substance to the parts upon which it is deposited. Taken internally, it induces thirst, dryness of the throat, with bitterness, and a certain acridity. Sometimes it gives rise to a semi-paralysis of the pharynx, and sometimes even to a kind of dysphagia. In poisonous doses it gives rise to nausea and vomiting, like opium itself. But while the action of this last on the intestinal canal is characterized by constipation, belladonna, on the contrary, produces hypersecretion from the mucous membrane of the canal, and slight painless contractions—that is, diarrhœa. Belladonna has a sedative action on the circulation, producing in a therapeutical dose a diminution of the pulse and calorification; while in a poisonous dose it gives rise to febrile accidents and a notable elevation of temperature. Preparations of belladonna produce on the skin almost a scarlatiniform eruption of uniform redness. Their action on the respiration is to diminish the secretion of the respiratory mucous membrane, the rapidity of respiration, and the play of the thorax, diminishing also the sensibility of the nerves. But when given in large doses, at the same time that these induce vomiting and fever they increase the movements of the thorax. Transpiration is not increased by belladonna, which again in this differs from opium; and it is the same with the urine, which is increased in quantity. It is a nervine *par excellence*, exciting the central nervous system. In a somewhat large dose it produces cephalalgia; in a stronger dose, vertigo, intoxication, subdelirium, with great loquacity; and in a poisonous dose the delirium becomes more intense, and even furious. Opium is the opposite of this, depressing the nervous system. It acts on the pupil by "decongestioning" and dilating it—again the opposite of opium. On this ground it is suppósed to render the brain anæmic, while opium seems rather to produce its congestion. Finally, in a therapeutical dose it diminishes the susceptibility of the nerves of sensibility, and in a poisonous dose it gives rise to the phenomena of tetanism. To sum up: the principal action of belladonna is to produce diarrhœa, to diminish calorification, to increase the renal secretion, to maintain the nervous system aroused, while rendering the central nervous system anæmic.

As to the diseases in which belladonna is indicated, Dr. Simon states that in simple acute laryngitis, in stridulous laryngitis, in intense laryngitis with spasms, raucous cough, etc., he prescribes a mixture of equal parts of the tincture of the roots of aconite and belladonna, giving ten drops per diem to children two or three years of age. In spasmodic and paroxysmal bronchitis, in bronchial adenopathy, in whooping cough, and in influenza, he also orders belladonna in combination with aconite. If the child is nervous and very excitable, he associates with the syrup of belladonna (ten grammes) syrup of codein (ten grammes) and eight or ten drops of tincture of aconite, obtaining thus the benefit of both opium and belladonna, their antagonism not being so complete as to prevent their advantageous association in some forms of disease, especially such as are attended with respiratory spasm. Belladonna is also of service in emphysema, in asthma, and in suffocative paroxysms. On the other hand, its employment is absolutely proscribed in pneumonia and broncho-pneumonia. In affections of the digestive organs, especially those met with in nervous little girls, already almost hysterical, with their intellect developed beyond their age, and who are already little actresses, who have anæsthesia of the skin, complain of severe pains without obvious cause, and who suffer from gastralgia, dyspepsia, and sometimes vomiting—in such patients, after trying laudanum, blisters, douches and ice, he gives belladonna, in spite of the cerebral irritation which exists, in doses of a teaspoonful of equal parts of syrup of belladonna and syrup of codein. When children are growing up and suffer from constipation, which accompanies abdominal neuralgia, he gives before meals a pill consisting of a centigramme of powder and one of extract of belladonna. In tenesmus, ointments combined with belladonna generally succeed, and they are also of use in appropriate cases of nocturnal enuresis. In young girls of thirteen to fifteen, in whom the establishment of menstruation is difficult and is accompanied by erratic pains, a liniment composed of four grammes of the extract of belladonna, six of the extract of henbane, and thirty of the oil of henbane may be applied to the hypogastrium, and then covered with a cataplasm. The pains are by this relieved without the ill effects produced by opium enemata on the menstrual process. Belladonna, formerly much employed in epilepsy, has of late been superseded by the bromides; but in some cases in which these last have been found to fail, advantage has been derived from giving for a fortnight one or two milligrammes of powder of the neutral sulphate of atropia, and following this up for another fortnight with strychnia. In zona and in facial neuralgia of rheumatic origin belladonna may be employed for the relief of the severe pains. In affections of the eye it is of use in diminishing the contraction of the pupil, as also in catarrhal or purulent conjunctivitis, especially when followed up by quinine. It is an error to regard it as a preservative from scarlatina.

"Belladonna, then, is a means which may be very usefully employed in the affections of the respiratory organs already indicated, in diseases of the digestive canal (when neither enteritis nor diarrhœa exist), in affections of the nervous system, in zona, in facial neuralgia, and in diseases of the eye."—***Medical Times and Gazette.***

RELATION OF METEOROLOGICAL CONDITIONS TO THE SUMMER DIARRHŒAL DISEASES.

Dr. S. C. Busey, of Washington, District of Columbia, in the *Bulletin of the Philosophical Society of Washington,* contributes an interesting study on this subject, from which we make the following extract:

An analysis of the mortality statistics of these diseases leads to the following conclusions:

(1) Diarrhœal diseases are far more destructive to infants than to adults.

(2) They prevail almost exclusively during the warmest months of the year.

(3) They are more prevalent in the region of this country north of the north line of the Gulf States, and east of the Rocky Mountains.

The first two conclusions are universally admitted; the third is not so generally recognized. Two additional propositions are suggested:

(1) These diseases occur in groups, when the cases rapidly multiply during successive days for a week or fortnight, followed by an interval during which few or no cases occur.

(2) These groups correspond with waves of continuous high temperature during day and night, which spread, at shorter or longer intervals during the summer months, over the northern climatic belt of this country, lasting from three to fourteen days, and varying in intensity at different times and in different years.

The first of these propositions cannot be established, because of the absence of statistical data relating to the beginning of the initial symptoms of the diseases; the second is proven by data supplied by the Signal Service Bureau. A comparison of these data with the mortality statistics show:

(1) That the month of July is the hottest and sickliest month of the year, most couducive to bowel affections, and most fatal to children under five years of age.

(2) The epidemics of bowel affections of children, incident to the summer season, have their beginning nearly simultaneously with the first exacerbation of heat, which usually occurs in the latter half of June; and the maximum daily mortalities more frequently correspond with the maximum temperatures, which occur in periods of three or more days, at longer or shorter intervals during the summer months.

(3) With the usual lowering of temperature and absence of excessive heat periods, which occur after the middle of August, the daily mortality declines.

(4) The detrimental influence of summer temperature is intensified by sudden and acute elevations and falls.

(5) Children under one year of age are most numerously and seriously affected.

Heat exhibits its deleterious influence in another and very important relation. It is one of the many conditions which, in conjunction, make up a season. A comparison of the statistics of the weekly mortality from diarrhœal diseases in the principal cities of the country, grouped according to latitude, will exhibit the gradual increase of these diseases with the gradual advance of the summer solstice northward until it reaches its maximum, during the period when all the elements which complete the season of summer are in their fullest activity; also a gradual decline with the return of the winter season.

The total movement of the wind is, perhaps, a more important influence than is generally believed. A comparison of the mortality data with the records of the monthly measurement of the wind, supplied by the Signal Service Bureau for the years 1875, 1876, 1877, 1878, 1879, and 1880, shows:

(1) July is the month of greatest mortality and least movement of the wind.

(2) The nearer the monthly movements of the wind approach uniformity, the less the mortality for summer diarrhœas.

(3) Equality of climate corresponds with uniformity of and

moderate or small movements of wind, and small mortalities.

(4) Wide ranges of temperature correspond with large movements of wind, and high mortalities from diarrhœal diseases.

(5) Weekly mortalities from diarrhœal disease increase correspondingly with advance of the summer solstice northward, increasing with greater range of temperature, and larger and more fluctuating movements of wind.

Relative saturation of the air bears no constant relation to mortalities. Moisture in relative excess to the heat of an impure and stagnant atmosphere is the condition which supplies the most satisfactory explanation of its detrimental influence.—*Medical News.*

THE ANTIPYRETIC TREATMENT OF FEVER.

Dr. Austin Flint (*Medical News*) concludes a valuable paper on this subject as follows:

"(1) That by the employment of cold water externally in in cases of typhoid fever, the temperature of the body may, after a variable time of the continuance of the employment, be reduced to 102° or lower.

"(2) After a period varying very much in different cases, and, also, at different times in the same case, the temperature, as a rule, again rises as high as, or higher than, before the reduction.

"(3) Repeating the employment of cold as often as the axillary temperature exceeds 103°, the number of repetitions required in different cases is extremely variable.

"(4) The sponge bath and the wet sheet with sprinkling may be employed to the exclusion of the bath-tub in the antipyretic treatment in cases of typhoid fever as well as of other febrile diseases.

"(5) These modes of employing cold water may be continued sufficiently long for the reduction of temperature to 102° or lower, and repeated as often as may be required, without risk of any immediate injury, and the study of these cases furnishes no ground for supposing that a liability to complications or accidents is thereby increased.

"(6) Reduction of temperature by these modes as often as it rises, in the axilla, above 103°, improves the condition of the patient. The cases now studied do not afford proof either that the fatality of typhoid fever, or that its duration is thereby diminished. The study of these cases, however, renders it possible that this proof would be afforded by a larger collection of cases.

"During the period that the cases now studied were treated, seven hospital cases were recorded in which antipyretic treatment was not employed. In most of these cases the temperature did not rise above 103°, and it was for this reason that the treatment was not employed. Of these seven cases three were fatal, but I need not say that it would be unfair to draw any deduction from the contrast as regards the proportionate number of fatal cases. It is well known that, in general, resistance, toleration, and recuperation are not as well exemplified within as outside of hospitals. Moreover, in cases of typhoid fever, patients are not admitted into hospital until some days after the commencement of the disease. The clinical test of therapeutical measures, as far as fatality is concerned, is therefore best afforded by the study of cases in private practice.

(7) "The result of the analysis of these cases, although not sustaining the statements of Liebermeister and others respecting the controlling influence of the employment of cold externally in cases of typhoid fever, yet not only show this method of antipyretic treatment to be safe, but afford us encouragement to employ it with the expectation of diminishing the severity of the disease and its danger to life."

EXCISION OF THE TONGUE.

Mr. Walter Whitehead, of Manchester, now publishes notes of thirty cases in which the tongue has been entirely removed by his method. In one case the patient died on the twenty-first day, and in another in fourteen hours after the operation, of shock.

The operation is conducted after the following simple manner:

(1) The mouth is opened to the full extent with Mason's, or any other suitable gag, the duty of attending to this important part of the operation being entrusted to one of the two assistants required.

(2) The tongue is drawn out of the mouth by a double ligature passed through its substance an inch from the tip. This ligature is given in charge of the second assistant, with instructions to maintain throughout the operation a steady traction outwards and upwards.

(3) The operator commences by dividing all the attachments of the tongue to the jaw and to the pillars of the fauces, after the manner suggested by Sir James Paget, with an ordinary pair of straight scissors.

(4) The muscles attached to the base of the tongue are then cut across by a series of successive short snips of the scissors until the entire tongue is separated on the plane of the inferior border of the lower jaw, and as far back as the safety of the epiglottis will permit.

(5) The lingual or any other arteries requiring torsion are twisted as divided. It is generally found that a moment's pressure with a small piece of sponge, held in sponge forceps, suf-

fices temporarily, if not permanently, to arrest any bleeding; it is, however, regarded desirable to twist, either immediately or after the tongue is removed, every bleeding vessel.

(6) A single loop of silk is passed by a long needle through the remains of the glosso-epiglottidean fold of mucous membrane, as a means of drawing forward the floor of the mouth should secondary hæmorrhage take place. This ligature may with safety be removed the day after the operation, and, as it is invariably a source of annoyance to the patient, it is always desirable to adopt this rule.

The after-treatment consists in feeding the patient for the first three days absolutely and solely by nutritive enemata, satisfying thirst by occasionally washing out the mouth with a weak iced solution of permanganate of potash, forbidding any attempt at speaking, and requiring that all the wishes of the patient shall be expressed in writing, or by signs. The difficulties and dangers of the operation are few, and more imaginary than real. Hæmorrhage, the *bete noire* of most surgeons who contemplate removing the tongue, is in reality easily controllable, and frequently trifling. I have twice removed the entire tongue without having to secure a single vessel, and more than once have only had to twist one lingual artery.—*Dublin Journal of Medical Sciences.*

THE PRECANCEROUS STAGE OF CANCER, AND THE IMPORTANCE OF EARLY OPERATIONS.

In a clinical lecture on this subject (*British Medical Journal*, January 7), Mr. Jonathan Hutchinson observes: The patient who has just left the theatre is the subject of cancer of the tongue in an advanced stage. As I demonstrated to you, the lymphatic glands are already enlarged. It is hopeless to think of an operation, and there is nothing before him but death, preceded and produced by a few months of great and continuous suffering. His case, I am sorry to say, is but an example of what is very common. Not a month passes but a case of cancer of the tongue presents itself in this condition. The cases which come whilst the disease is still restricted to the tongue itself are comparatively few; nor does this remark apply only to the tongue. "Too late! Too late!" is the sentence written but too legibly on three-fourths of the cases of external cancer concerning which the operating surgeon is consulted. It is a most lamentable pity that it should be so; and the bitterest reflection of all is, that usually a considerable part of the precious time which has been wasted has been passed under professional observation and illusory treatment. In the present instance, the poor fellow has been three months in a large hospital, and a month under private care. I feel free, gentlemen, to speak openly on this matter, because my conscience is clear that I have never failed when opportunity offered, both here and elsewhere, to enforce the doctrine of the local origin of most forms of external or surgical cancer, and the paramount importance of early operation. I have tried every form of phraseology that I could devise as likely to impress this lesson. Nearly twenty years ago I spoke to your predecessors in this theater concerning the "successful cultivation of cancer;" telling them how, if they wished their patients to die miserably of this disease, they could easily bring it about. The suggestion was, that all suspicious sores should be considered to be syphilitic. and treated internally by iodide of potassium, and locally by caustics, until the diagnosis became clear. More recently, I have often explained and enforced the doctrine of a precancerous stage of cancer, in the hope that, by its aid, a better comprehension of the importance of adequate and early treatment might be obtained. According to this doctrine, in most cases of cancer of the penis, lip, tongue, skin, etc., there is a stage—often a long one—during which a condition of chronic inflammation only is present, and upon this the cancerous process becomes engrafted. I feel quite sure that the fact is so. Phimosis and the consequent balanitis lead to cancer of the penis; the soot-wart becomes cancer of the scrotum; the pipe-sore passes into cancer of the lip; and the syphilitic leucoma of the tongue, which has existed in a quiet state for years, at length, in more advanced life, takes on cancerous growth. The frequency with which old syphilitic sores become cancerous is very remarkable; on the tongue, in particular, cancer is almost always preceded by syphilis, and hence one of the commonest causes of error in diagnosis and procrastination in treatment. The surgeon diagnoses syphilis, the patient admits the charge, and iodide of potassium seems to do good; and thus months are allowed to slip by in a state of fools' paradise. The diagnosis, which was right at first, becomes in the end a fatal blunder, for the disease which was its subject has changed its nature. I repeat that it is not possible to exaggerate the clinical and social importance of this doctrine. A general acceptance of the belief that cancer usually has a precancerous stage, and that this stage is the one in which operations ought to be performed, would save hundreds of lives every year. It would lead to the excision of all portions of epithelial or epidermic structure which have passed into a suspicious condition. Instead of looking on whilst the fire smoldered, and waiting till it blazed up, we should stamp it out on the first suspicion. What is the man the worse if you have cut away a warty sore on his lip, and, when you come to put sections under the microscope, you find no nested cells? If you have removed a painful hard-based ulcer of the tongue, and with it perhaps an eighth part of the organ; and, when all is done, and the sore healed, a zealous pathological friend demonstrates to you that the ulcer is not cancerous, need your conscience be troubled? You have operated in the precancerous stage, and you have probably effected a permanent cure of what would soon have become an incurable disease. I do not wish to offer any apology for carelessness, but I have not in this matter any fear of it.—*London Medical Record*, February 15, 1882.

THE EXCISION OF THE CANCEROUS UTERUS.

Statistics as to operations, compiled from the practice of many different persons, represent, not the possible results, but what may be called the average result only, because they include operations done by men of very different knowledge, skill, and experience. They tell us what has been done, but we cannot judge from them what may be done, nor always what ought to be done. The results obtained by one surgeon of experience are of much greater value for the guidance of others. Professor Schroeder, of Berlin, has recently published in the *Zeitschrift für Geburtshülfe und Gynäkologie* the results obtained by him from the partial and complete excision of the cancerous uterus. The first group of cases which he gives comprises those of *removal of the body of the uterus*, the cervix being left. He has done this five times—three times for carcinoma, twice for sarcoma. Four recovered, one died from septicæmia. In one, a case of carcinoma, four months after the operation there was no sign of relapse. In another, a case of sarcoma, five months after the operation, the disease had recurred. The subsequent history of the other two is not given. The next group is of cases of *Freund's operation*, of which Dr. Schroeder gives eight cases, six of which were operated on by himself, one by Dr. Veit, and one by Professor Freund. Of the eight, three recovered, five died. Of the three recoveries, one had relapse eleven months afterwards, one died six months afterwards from recurrence of the disease; the other, fourteen months after the operation, was as yet without relapse. Dr. Schroeder then gives his experience of the *supravaginal excision of the whole cervix;* that is, dissecting off upwards the mucous membrane, connective tissue, and peritoneum, and then cutting through the cervix high up. Of this proceeding he gives thirty-seven cases, with four deaths. In one, the disease was not completely removed. Of the remaining thirty-two cases, successful so far as recovery from the operation was concerned, in fourteen recurrence took place: in three within two months, in three within three months, in three within six months, in three others within seven, eight, and nine months respectively, in the other two the date of recurrence is not given. Seven are reported as continuing well, having been watched, in two cases two months only, in the remaining five cases, three, four, five, six, and seven months respectively. The subsequent course of the remaining eleven cases is not stated. The last operation for uterine cancer of which the results are given, is the *total extirpation of the uterus through the vagina.* This Professor Schroeder has performed eight times, with only one death, which took place from internal hemorrhage, the result of a laceration of the broad ligament. The successful cases were at the time Professor Schroeder wrote too recent for him to make any statement as to the frequency of relapse. So far as these statistics go, the latter operation would seem the most promising. But it is one difficult of performance, in which success must depend largely upon the manipulative dexterity and experience of the person who performs it; miscellaneous statistics cannot show what results may be obtained by an exceptionally skillful and careful operator.—*Medical Times and Gazette.*

CASE OF ACUTE TRAUMATIC TETANUS TREATED SUCCESSFULLY BY CHLORAL AND POTASSIUM BROMIDE.

Dr. Salter gives (*Practitioner*) an interesting history from which we abstract the following:

I began by giving him steadily, chloral in ten-grain and bromide of potassium in fifteen-grain doses, every two hours, increasing the frequency of the dose as the spasms were more frequent or severe. In addition to this I usually gave him from five to ten grains of chloral hypodermically whenever I called to see him, which, during the early part of the time, was three or four times in the twenty-four hours. These hypodermic doses quieted him much more markedly than those taken by the mouth, and the influence of the drug remained for a longer period. The bowels acted without much trouble, now and then requiring assistance by an ordinary aperient or by injection. The urine was always loaded with lithates, and scanty; perspiration being remarkably free, especially during the painful paroxysms.

He was fortunately able to swallow, in small quantities, a great deal of nourishment, consisting of strong meat broth, raw eggs and new milk; but I withheld stimulants in the early days, reserving them until I found, by pulse indications, that they were required.

* * * * * * * * *

His twenty-four hours' allowance of nourishment after the first week, during which he could swallow very little, amounted to from three to four pounds of meat made into concentrated broth; six to ten eggs; and from two to three pints of new milk; and, after the first fortnight, ten to fifteen and even twenty ounces of sound sherry, in wine whey; so that the sum total amounted to something considerable.

Between the 22nd of April and 12th of May, he took about two hundred and forty grains of bromide of potassium and one hundred and eighty grains of chloral per diem—administered in doses of ten to fifteen grains sometimes every half hour, but usually every two hours, occasionally at longer intervals. The total amount given in these twenty days was sixty drachms of chloral and eighty drachms of bromide of potassium, more or less.

EXPLOSIVE MIXTURES.

Medical men but rarely pretend to be good chemists, for it would require longer devotion to chemistry than the average medical student can afford; thus can it be marveled at when we see formulæ and prescriptions that, if dispensed according to the wishes of the prescriber, would result in an incompatible combination and often explosive compounds? Thinking it not ill-placed to, perhaps, refresh the memory of the profession regarding such mixtures, especially explosive mixtures, we have selected some examples and formulæ that when combined in certain proportions become dangerous, and in many instances have ended seriously; they are examples that have been experimented with, some intentionally, while others were prescribed by a badly informed physician and dispensed by a very incompetent druggist:

(1) Chlorate of potash, powdered galls, tannic acid. Mix. Ft. Pulvis. To be used as a gargle. The powders should be mixed separately, with water, and not rubbed together.

(2) Chlorate of potash and pulverized catechu. This combination is intended as a dentrifice. It however, should not be dispensed alone. If other combinations are made the danger is averted.

(3) Chlorate of potash, hypophosphite of soda and water. If the salts are rubbed together they will explode, but if dissolved separately in water, and mixed, no harm results.

(4) Chlorate of potash, tannic acid, glycerine and water. If the tannin, chlorate of potash and glycerine are rubbed together an explosion ensues, but if the acid is first dissolved in the glycerine and the chlorate of potash in the water and mixed, no harm follows.

(5) Chlorate of potash, tincture of ferri chlor. and glycerine, half an ounce of each.

This combination, so often used, when put together in the above proportions, is very liable to explode, especially if warmed.

(6) Soda chlo. two drachms; antimony sulph. aur. twenty grains. This combination, if even gently triturated, is liable to inflame with a crackling noise.

(7) Lac. sulphuris, three grains; antimony sulph. aur.

one-half grain; zinci valer. two grains; chlorate of potassium two grains. Mix. Ft. Pulvis. Make ten alike.

Potash permanganate, when associated with any readily oxidizable substance, such as glycerine, explodes.

(8) Chromic acid, 10 grains; glycerine, one drachm.

This mixture is liable to explode, unless the glycerine is added to the acid drop by drop.

Iodine and ammonia form a very powerful explosive agent when combined, unless some water is introduced into the mixture, which seems to retard the development of nitrogen iodide, upon which the explosive properties depend.

(9) Iodine, one-half drachm; liniment camphor compound; liniment saponis, of each two ounces. Mix. Ft. Liniment.

This combination exploded once in the hands of the pharmacist from the iodine and the ammonia in the liniment camphor compound coming in contact.

(10) Acidi nitrici; acidi, muriatici; tincturæ nucis vomicæ, of each two drachms. Mix.

This prescription was once ordered by a physician, and exploded after several hours.

(11) Acid nitro-muriatici, one ounce; tincture cardamomi, one-half ounce. Mix.

Also this combination was the result once of a serious injury.—*Pacific Medical Journal.*

GLASS AS A COVER FOR DISSECTING-TABLES.

BY CHARLES W. CATHCART, M. A., M. B.,
Lecturer on Anatomy in Surgeons Hall, Royol College of Surgeons, Edinburgh.

[*Reprinted from the Edinburgh Medical Journal for February* 1882.]

Having had occasion to re-cover one of the dissecting-tables at Surgeons' Hall, I substituted thick glass for zinc, and have found it answer so well that I have thought it worthy of being brought before the notice of others. The glass used is about half an inch thick, polished on one side, and ribbed or grooved longitudinally. The table is spread with soft putty, and the glass—cut to the exact size—is pressed evenly down upon it with the polished side uppermost, one end of the table being slightly raised. The margins of the glass are secured with a border of lead (or wood), which goes all round except at the lower end, where a wooden gutter is fixed to carry off fluids which drain down along the grooves. The surface of the glass can be kept beautifully clean by simple wiping. With glass of half-inch thickness firmly imbedded in putty, any ordinary wear and tear need not be feared, although it would be unwise to test its strength by direct hammering. The price with lead margin runs about twenty-eight shillings per cover, that is, twelve shillings for glass, four shillings and sixpence for putty, five shillings and sixpence for lead, and six shillings for workman's time and wooden gutter. If the margin—which has been found practically unnecessary—were omitted, the cost would be considerably lessened, both for time and material. The consistence of the putty requires special attention. It should be so soft that it can readily adapt itself to the table and glass, and for this purpose requires a much larger proportion of oil than is necessary for ordinary glazing purposes—probably cement would do as well or better than putty and it would be cheaper.

NUTRIENT SUPPOSITORIES.

Mr. Spencer (*Practitioner*) speaks highly of these suppositories. The meat is digested artificially and the extract is then made up with wax and starch.

These suppositories are of such a size that the digested and extracted product of twenty ounces of meat from which the insoluble matter is removed, is contained in about five suppositories. The convenience of this method is very great. It is easy for most patients to introduce them themselves; and their use is attended with no discomfort whatever in the majority of cases. After an hour or two the waxy basis is frequently returned, the peptone and extractive being absorbed. In some few cases, owing to irritability of the rectum, the whole suppository has returned; but this can be obviated by the addition of a little opium to each suppository.

ARTIFICIAL HUNYADI JANOS WATER.

The natural Hunyadi Janos water was observed by Professor Charteris to be an efficient, safe, and agreeable purgative in many chronic cases. It was, however, found to be too expensive for hospital use, and it was resolved to try an artificial imitation. At first it was made according to Liebig's analysis of the natural water, but this was perceived to be too weak, and it failed to produce the purgative action. Ultimately it was made thrice the given strength, according to the following receipt: Sulphate of magnesia, 514.92 grains; sulphate of soda, 519.54 grains; sulphate of potash, 2.76 grains; chloride of sodium, 39.15 grains; bicarbonate of soda, 15.60 grains; water, sixteen ounces; dose, two ounces and upwards. It will be observed that chloride of calcium is omitted, but the proportion is so small that even when it was included there was no difference in the action. The inexpensive mixture, made for a penny a quart, can be confidently recommended. It will be found to possess every advantage attributed to the natural water, the necessity for buying which seems to be done away with.—*The Lancet*, November 12, 1881.

THE

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ORIGINAL ARTICLES.

NOTES ON CASES IN PRIVATE PRACTICE.

BY W. H. SMITH, M. D., PH. D., SAINT CLAIR, MICHIGAN.

Anal Blood Clot.—March 5 I was called to see Mr. B., who was said to be suffering from "piles." Another practitioner had been previously in attendance who had treated the patient with leeches, anodynes, etc., ineffectually. Inspection revealed at the side of the anus a small bluish tumor, covered with a very tense, thick skin. This was opened, a blood clot turned out, and the patient soon experienced a sense of a comple relief.

Hydrocele.—Mr. D. had been troubled with a hydrocele for over two years. The thing had been twice tapped by a quack, but soon refilled. At the second tapping the contents of the cyst were admixed with a large quantity of blood. Upon consulting me, I again tapped the hydrocele which was of large size. After the contents had been entirely evacuated, the cavity was injected with two drachms of the strong tincture of iodine as recommended by Professor Maclean. Considerable inflammation followed, but when that subsided the hydrocele was found to have disappeared. In the two months since intervening the cavity has shown no signs of refilling. Another instance showing the effectiveness of the iodine treatment is the following: Mr. F., age 19, had been troubled from infancy with hydrocele. This had been tapped a number of times by different Canadian physicians, and injected with a preparation of some kind. What the material used for the injection was the patient could not assert. March 29, 1882, I tapped the tumor, and after complete evacuation of its contents threw into the cavity two drachms of the officinal tincture of iodine. The canula was then withdrawn, the iodine left inside, the scrotum thoroughly shaken, and the keeping of himself quiet for some days enjoined upon the patient. The sac became inflamed and swollen. For two weeks it remained as large as it was prior to the operation. Then it began to diminish in size, and on April 22 had completely disappeared. I may add in this connection that, so far as my knowledge goes, it harmonizes with Dr. Maclean's view, that no bad effect ever occurs from this mode of treatment. The only exception to this statement was a case operated upon by a physician who, I have reason to believe, does not use scrupulous care in regard to the clealiness of his tools. Also in that case the patient after the operation was allowed to ride some miles from the doctor's office to his home over rough roads. That case came very near terminating fatally, but fortunately recovered.

Typhoid Fever.—In this disease I have noticed one case in my own hands, and a number in the hands of other physicians, where the fever commenced on shipboard and the patient came to land for treatment, have all terminated fatally. Have these cases been exceptional, or is the disease when it begins on board of vessels more severe? If the latter be true, as it apparently is, may not the greater severity be due to the patient in such cases continuing up and around at a time when if at home he would be in bed and provided with proper care?

Phthisis.—Three cases have recently come into my hands which have been diagnosed consumption, and which presented none of the signs of that dread disease. One was a case of chlorosis, one of chronic gastritis, and the other of chronic hepatic congestion. Such blunders are inexcusable. It is positively cruel to inform a patient that he or she has some such almost irremediable complaint when the assertion is not warranted by the facts. These instances may lead to a suspicion of the genuineness of certain cases of so-called consumption in which cures have been effected.

Gastric Ulcer.—Within the past six months five cases of this disease have come to me for treatment. In only three of the five cases was the characteristic hematemesis present, but in the other two instances all the symptoms pointed to the ulcer so strongly that there could be but slight doubt as to the correctness of the diagnosis. These facts may cause one to question the statement in some of the books about ulcer of the stomach being a rare affection. Either that statement is incorrect, or I have had an exceptional run of this kind of patients.

Hysteria.—A young lady, age nineteen, took to her bed and informed her parents that her lungs were inflamed and that she would die before morning. She at once began to breathe very short and to have sinking spells. I was summoned and found pulse and temperature normal, and was unable to detect any physical sign of the lung difficulty. A dose of physic was given to relieve the constipated bowels and followed by bromide of potassium and assafœtida, after which I returned to my home, having previously informed the family that there was no serious danger. It is needless to add that she made a good recovery, thus furnishing an instance of a prophecy that was not fulfilled. The peculiar fact in the cases was that four months before this same girl had, under the care of a so-called physician, passed through and recovered from an attack of inflammation of the lungs. Did she then have that disease or was the trouble the same as upon the occasion of my visit?

Ranula.—In the May, 1881, number of THE PHYSICIAN AND SURGEON, I reported a case of ranula which I believed to have been completely cured by opening and injecting with iodine. The patient then passed out from under my observation, but I have lately heard that the cyst is refilling, so that the cure is not complete as I supposed.

Gonorrhœa.—A young man with chronic gonorrhœa, or gleet, had tried several physicians and been treated ineffectually. He was given the following prescriptions:

	℞.	Olei santali albi	℥j.
		Spiriti vini r.	ʒv.
		Olei cassiæ	gtts. x.
M.	S.	Teaspoonful for or five times a day; also,	
	℞.	Ext. yerbæ reumæ fld.	℥ij.
		Zinci sulphatis	grs. x.
		Aquæ cassiæ	℥iv.
M.	S.	Use as an injection three times a day.	

Another man had been treated by a druggist with medicines and injections until acute prostatitis supervened, when he came into my hands. For him was prescribed:

	℞·	Extracti cascaræ sagradæ fluidi	℥ ss.
		Tincturæ nucis vomicæ	ʒij.
		Vini ergotæ q. s	ʒiv.
M.	S.	Cochleare parvum ter in die.	

The results in both cases were very satisfactory. In the former the discharge was speedily arrested, and the latter the prostatitis at once subsided, after which he was treated as an ordinarry gonorrhœa.

Fracture of Pelvis.—Mr. S., working in the lumber woods was thrown from a sleigh upon a side hill under two saw-logs. Inspection revealed fracture of the pelvis, displacing the pubic bone downward and concussion of the lower part of the spine. The patient was put to bed, padded so as to rest easy and retain the parts in position, his urine drawn regularly with a catheter, his bowels kept open, and wounds bathed with arnica. Lead-water was afterwards applied to the spine, and he was given internally one-sixtieth grain doses of strychnia. Four months have since elapsed and the patient has recovered to such an extent that he is able to resume work, but his gait in walking is a trifle unsteady, and he still experiences some tenderness of the spine. Another case of pelvic fracture came into my hands for treatment some months before. This was a result of a loaded wagon passing over that part of a man's body. Dr. F. B. Sutton saw the case with me. The urine was drawn by instrumentation, the patient made easy and left alone. The next day upon again drawing the water I found the quantity, about five ounces, did not differ materially from that of the preceding day. This led me to suspect rupture of the bladder, and to entertain a very grave prognosis. After my return home Dr. Shoebottom of Port Huron was called to see the case which terminated fatally on the following day. No postmortem was allowed.

AN EPIDEMIC OF MEASLES. (CONTINUED FROM PAGE 64.)

BY GEORGE W. ORR, M. D., CENTRAL MINE, MICHIGAN.

TWO CASES OF BRONCHO-PNEUMONIA AND ENTERO-COLITIS.

John H. and Arthur M., aged respectively one and two years, were taken with measles May 5 and 6, and died May 22 and 23. These two cases were as much alike as two cases could possibly be, both having severe bronchial irritation, the inflammatory process reaching to lung substance with high temperature, very rapid respiration and delirium, finally diarrhœa, puffed abdomen and all the evidence of entero-colitis, soon followed by cerebral symptoms which closed the scene.

CAPILLARY BRONCHITIS.

Maggie O'Neil, aged two years, a well-nourished child of Irish descent, was taken with measles on May 28, the rash was confluent and very dark, capillary circulation extremely sluggish, rash remained out two or three days longer than usual; catarrhal symptoms severe, bowels open, cough dry, harsh and painful, but became moist about the third day of the rash then coarse rales could be heard over the greater part of the chest, respiration continually increased in frequency and dyspnœa quite distressing; on fifth day subcrepitant and coarse rales were distinctly heard all over the chest, and at times dyspnœa was alarming. Hot stupes and poltices were constantly used, and an emetic to unload bronchi as often as the strength would admit. Emetic always gave relief. Oil terbinthæ in three drop doses was given every three hours. On the ninth day of her sickness she began to improve and continued to do so for the five following days. On June 12, at about 4 o'clock, I called at the house and was very much astonished to find her dying; pulse imperceptible at wrist, extremely rapid, and shallow respirations. Extensive collapse of lungs was the cause of death.

CATARRHAL PNEUMONIA.

Stephen R., aged two years, a child whose previous health was faultless, was taken with measles on May 15, the disease was severe in all its symptoms. He did very well until the second or third day of the third stage, when I found him listless and extremely pale, high temperature, rapid pulse and respiration. Examination of the chest revealed crepitant and and subcrepitant rales over both lungs. External applications, ammonæ carb. and the usual remedies were administered, but the little fellow gradually grew weaker, although nourishment was given as much as possible. At the end of seven days the abdomen became tympanitic, cerebral symptoms prominent. I left him that night, never expecting to see him alive again. About 3 o'clock the following morning his father called me, stating Steve was bleeding to death from the nose. I reached the house as soon as possible and found the little fellow had lost about three to four ounces of blood and still bleeding. I gave astringents and plugged the nose. The hemorrhage was checked and improvement dated from that hour; he made a slow but good recovery.

The twelve cases of acute bronchitis were treated by quiniæ sulph., and in every case the disease cut short or aborted when the drug was given at proper time and doses. I do not like the secondary effect of quinia in children two years old and under, for this reason do not administer it unless absolutely necessary, but in children four years old and upwards I have seen the most satisfactory results from its use in both bronchitis and pneumonia. Five of the seven cases of broncho-pneumonia were treated and aborted, or cut short, by quiniæ sulph.; all the distressing symptoms disappeared from twenty-four to forty-eight hours after the first dose. The remaining two cases of broncho-pneumonia were children eight years of age, but would not take medicine; they both recovered after a long sickness. In both of these cases the pneumonia was unilateral. The two cases of ulcer corneæ recovered with first-class results. Not a trace of the cicatrix remains. There was one more fatal case, but I do not feel justified in crediting it to the measles. Mary K., aged three years, came down with the measles about May 20. Nothing unusual in the case until the morning of the 25th —the measle rash was disappearing and scarlet rash occupying every available space, but measles still held the supremacy. Throat symptoms and vomiting severe; temperature 105°; pulse very rapid. In the evening the scarlet rash had crowded the measles entirely off as it were, and had an undisputed possession, with temperature 106° and all the evidence of a fatal termination with that dreaded disease. She died during the night.

During the prevalence of measles the epidemic influences on other diseases were marked. During May and June I had fifteen cases of scarlet fever—they were all severe cases,—the result was two deaths from acute disease and four suffered from sequelæ. One acute rheumatism and three from desquamative nephritis, two of these recovered, and one died from pericardial dropsy. The two that recovered were very sick children, feet and legs œdematous; scrotum of boy full and clear; abdomen very much enlarged; urine scant and heavily charged with albumen; on an average more than one-half albumen and microscopic evidence of severe kidney lesion. Dr. Lawbaugh saw both of these cases and gave a very unfavorable prognosis. The treatment in these cases was baths of hot water, wrapped in wet cloths and placed in bed, with patient well covered, which always produced free perspiration. I like this plan far better than vapor baths. Enough Rochelle salts were administered every morning in cold water on an empty stomach to move the bowels freely, and the following mixture was given:

℞.	Pot. acetatis.	ʒ ijss
	Aeth. spts. nit.	℥ iij
	Spts. minderini	℥ iiss
	Syr. simplicis	℥ j.

M. S. Teaspoonful three times a day.

Tincture ferri mur. was also administered and a strictly milk diet was ordered. A fly blister was also used over the heart in one case, which gave great relief to embarrassment of that organ.

During 1880 I treated forty-six cases of scarlet fever under the same surroundings except epidemic influences. Result, two deaths from acute disease, and three suffered from sequelæ; all three recovered. Two sisters, aged nine and thirteen, had mild attacks of desquamative nephritis. Feet and limbs quite œdematous, abdominal dropsy quite extensive, urine nearly one-half albumen. Special attention to bowels; skin and diet, and iron relieved them. A brother, aged six years, had every objective appearance of severe kidney lesion. Feet and ankles œdematous, scrotum full and transparent, considerable abdominal enlargement, face clear and puffed. Scarcely any part of him was free from anasarca, but not a trace of albumen was discovered in the urine, and examinations were made every day for several days.

While measles were prevalent we had what is known as a Lake Superior break-up, which is the process of the melting and disappearance of about four to five feet of snow and all the accumulation of six months of winter, and you can imagine what the accumulations of animal and vegetable matter would be around some houses for it is useless to say that all families are careful of their back yards. My experience has been that we have more throat trouble and simple fevers during that time than at any other.

The source of this epidemic is interesting as it fairly shows what ignorance or false impressions can do for a community. We have in this place a large school building divided into four rooms and usually employ four teachers. The principal of the school during 1881 resided at the Petheric Mine, a distance of two miles from his school. He invariably took his morning and evening meal and lodging at his home. He had three children. About April 20 they were sick with measles. At this time there was not a case on this mine. But this was one of your wise principals, and lectured the children in school on measles, telling them it was a harmless disease, and could not be carried in clothes, and not very contagious. The result was that more than a dozen children came down on the same day and scattered well over the location, very plainly showing that the source of contagion was one common center and he was no doubt that center, bringing the disease from his family. I am quite confident that pack peddlers are frequently the carriers of contagious diseases. I have seen them in houses where there was scarlet fever, where there was measles, and where there was diphtheria. What is to prevent them from carrying these diseases in their clothes and pack, going from house to house. People cannot know from whence they come or whither they go.

HYDRATE OF CHLORAL IN DIPHTHERIA.

BY F. J. GRONER, M. D., BIG RAPIDS, MICHIGAN.

In the April number of THE PHYSICIAN AND SURGEON is an article on chloral hydrate in diphtheria, in which Dr. D'Ary invites readers of this journal to give the remedy a trial and report results. That trial had already been given. And to demonstrate again that there is no new thing under the sun, I will say to the doctor that several months ago I began an article entitled hydrate of chloral in diphtheria; but did not quite complete it. Now that "results" are called for I will give the readers of this journal the benefit of that article.

In 1879, when I was a student in the office of Dr. Ikeler, at Three Rivers, Michigan, he took me to see a severe case of diphtheria. The patient was a young man, and the odor exhaled was intolerable. Dr. Ikeler ordered a strong solution of chloral hydrate painted on the false membrane, and not only did complete disinfection follow but the membrane was cast off and recovery followed speedily.

In September, 1880, diphtheria of a very malignant type, manifested itself in Big Rapids. The majority of cases proved fatal. I saw a number of these cases in consultation and treated some of them during the sickness of Dr. Hendryx. Having just located here I had no cases of my own until in December when I had four well marked, among very poor families, where the nursing and hygienic influences were not the best. I remembered the chloral hydrate, but as the children were small I did not wish to frighten them by swabbing, so I prescribed:

℞. Chloral hydrate	ʒ ss
Tr. ferri chloridi	ʒ ij
Glycerinæ	℥ ij
Syr. simp	℥ i

M. S. Teaspoonful every two hours.

I noticed my treatment was followed by good results. I mentioned the treatment to some of my fellow practitioners, but don't think anyone tried it. Since then I have treated eighteen cases from the beginning without a loss. (I have had deaths from diphtheria during this period, but they were cases that had been treated by other physicians until death was imminent and I was sent for as a final resort. Chloral was not a specific for these cases.) Among the genuine cases of diphtheria in Big Rapids, Freemont, White Cloud, Reed City, Ludington and Cadillac, the death rate has been shockingly high. Frequently the disease stopped only when there were no more children remaining in the household.

When I compare my results with others I am satisfied that chloral is the efficient remedy. I do not depend on it alone. We have a trinity in the treatment of diphtheria which I think every practitioner recognizes, namely, quinine, iron and whiskey. The rest are merely auxiliary. I have counted chloral my principal remedy from my results, and especially since reading the results of chloral hydrate in septicæmia (THE PHYSICIAN AND SURGEON, Volume III, page 270).

I have tried the various methods of treatment recommended that commended themselves to my judgment and have succeeded best with chloral hydrate, quinine, iron and whiskey. Occasionally I spray the throat with carbolic acid and lime water. I tried turpentine in a very severe case that I was called to on the sixth day. The membrane was cast off but death followed from paralysis of the pneumogastric the eighth day. I have not tried it sufficiently to conclude it useless. Have tried pilocarpin repeatedly and think it of very little value. I think many fail in attempting to do too much. In THE PHYSICIAN AND SURGEON, Volume III, page 286, you will find this prescription:

℞. Potassi chlor	ʒ j
Tr. ferri chlor	℥ ss
Glycerinæ	℥ i
Aquæ q. s. ad	℥ iij.

S. One drachm every half hour, for child twelve years of age.

That is giving one ounce of tr. ferri chloridi every twenty-four hours, which is not only a great waste of iron but actually destroys the mucous membrane of the stomach. Tincture of iron exerts a powerful local effect not only as a styptic but also as a caustic upon delicate tissues. This accounts for some patients not being able to retain a teaspoonful of nourishment on the stomach, and starving to death after the symptoms of diphtheria have abated.

I give quinine every four hours; the size of the dose is determined entirely by the febrile symptoms. Whiskey is given in milk punch, egg-nog, whiskey sling every hour or two, depending on symptoms; strength determined by age of patient. Chloral hydrate is combined with tr. ferri chloridi, glycerine and syrup in from eight to thirty grains per ounce and given every one to four hours, depending on the severity and stage of the disease and age of patient. I prescribe it freely the first few days, when the severe symptoms usually subside. Chloral hydrate is a powerful antiseptic, and beside the disinfecting property has the power of destroying the organisms in the diphtheritic membrane, as I have observed under the microscope. Before I read the experiments of Trassevitsh I had come to the conclusion that it is one of our most powerful internal antiseptics. I treated two cases of puerperal fever almost wholly with hydrate of chloral with success in both cases. I have tried it in seven cases of scarlet fever with good results. They were mild cases, however, and might have done as well on any other treatment. I am confident that chloral hydrate, with the tincture of iron, is *the great prophylactic* when diphtheria makes its appearance in a family. I think it claims further and more extended trials.

DISLOCATION OF THE HUMERUS WITH FRACTURE THROUGH THE EPIPHYSIS.

BY C. M. DICKSON, M. D., BRANDT, OHIO.

Harvey C., a lad of fourteen years, was brought into my office March 3, with his *left* arm in a sling, and asked me to examine it, saying, "I am afraid it is out of joint." Upon inquiry the following history was elicited:

He had gone to school that morning, and as was the custom with the small boys, he was "walking on the fence" when he was pushed off by one of his companions, and fell on a plank, striking on the shoulder.

His shirt was then removed, and I noticed there was considerable deformity, the injured shoulder being *very much* lower than its fellow, with a round prominence just to the right of the glenoid cavity and beneath the clavicle, showing the position of the head of the humerus. The elbow pointed outward and backward,—swelling not very great, but pain upon the slightest movement.

The patient was thoroughly anesthetized (chloroform being the anesthetic). I grasped the arm and proceeded to rotate, when *crepitus was distinctly felt!* All manipulation ceased, and I began prospecting for this heretofore undiscovered complication and found it to be *a fracture through the epiphysis!* The head of the bone could be pushed into position by the fingers when the arm was raised at a right angle from the side, but would immediately fly out of place by approximating the arm to the side.

This was discouraging, as I had only located in this locality but a few weeks, and I was desirous of making a favorable impression at the outset, so when this case presented itself I thought my time had come—all I had to do was to reduce this simple (?) luxation in a brilliant manner and my reputation was made. How all my bright hopes dwindled into insignificance at the discovery of that fracture.

However, I decided to do my best, and I accordingly laid the facts before the father, told him the liability to deformity and suggested he had better call another physician, which he did: Dr. C. H. Humphreys, of Dayton, being the choice. My diagnosis was confirmed by the doctor, who also informed the father as to the probable result in such cases.

Treatment.—The treatment laid down in the books in all cases of dislocation with fracture of the bone, is to *reduce the luxation first and treat the fracture in the usual way;* but in this case it could not be done for reasons above stated. We therefore made a splint from heavy straw-board, cutting a V shaped piece out of the upper end. This splint was applied wet and carefully moulded to the shoulder. Another short splint was cut for the inside—these were lined with cotton-batting—the arm bandaged from the elbow to the shoulder and bound firmly to the side by passing the roller bandage around the body; the forearm was placed at a right angle and the hand supported by a sling while the elbow hung pendant.

This dressing was removed once a week, the parts sponged, and the dressing reapplied. At the end of the first week I directed the patient to take his hand from the sling and use the forearm carefully, to avoid any anchylosis of the elbow joint.

On March 31, just twenty-eight days after the injury, I removed the dressings and noticed that the shoulder had assumed its natural rotundity. It seems that the muscles had either drawn the epiphysis back to its place or it had occurred in dressing the arm. I did not replace the bandage, but made passive movements and ordered that they be persevered in. At the time of this writing, motion is nearly normal and in a few more days will be perfect.

I have dwelt at some length upon this case, as it is of uncommon occurrence in private practice, and is one that will tax the judgment of the young physician to its utmost to handle it with justice to his patient and credit to himself.

CASES OF DIPHTHERIA OCCURING IN KEWEENAW COUNTY, UPPER PENINSULAR OF MICHIGAN.

BY G. W. ORR, M. D., CENTRAL MINE, MICHIGAN.

Nearly three years ago, when I first came to this country, I was informed by a number of physicians that diphtheria was unknown in this part of the state, and some of them had been practicing here many years without having met with a case of that disease. It was very gratifying to me to find a country where that dreaded disease was barred, and for more than two years my mind was at rest without having seen a symptom to arouse my suspicions of ever meeting with diphtheria in this place. Every spring and fall we have plenty of simple sore throat, pharyngitis and quinsy, but I had never seen a particle of psuedo membrane in any of these cases until November 16, 1881, and this case I diagnosed as diphtheritic pharyngitis and believed it to be a sporadic case and due to the cachectic condition of the patient. Since the above date I have had ten cases of diphtheria and I should not trouble you with a description of them only I desire to place them before your readers and ask any or all of them to name the disease if it was not diphtheria.

Dr. Laubaugh, of the Phœnix mine, saw one of these cases and agreed with my diagnosis. Dr. Bradfield, of the Delaware mine, *did not* see any of these cases and says it was not diphtheria, that he has practiced on the lakes a number of years and has never met with the disease, and he does not believe that the affliction at the Central mine called diphtheria was really that disease. I assure you I was somewhat surprised when I heard of this, and I would like to ask what particular condition of things, or what combination of circumstances prevent diphtheria in this country.

"Winter's cold has no effect to abate its ravages, but rather it is a winter disease, its nature and causes are shrouded in obscurity." This much I do know that we have had diphtheria in this location, Dr. Bradfield, notwithstanding, and I treated it for that disease and am willing to take the consequences.

Case I.—Laura Bennett, aged twelve years, a frail anæmic girl, with a history of pulmonary consumption on father's side.

November 16: I was called to see her; found her complaining of sore throat; she had diarrhœa for a few days, with pain in head and limbs; glands of neck slightly swollen; tongue slightly coated; breath very foul; tonsils swollen; membrane of fauces congested and dusky red; small light patch of false membrane covering each tonsil. Pulse rapid and feeble; temperature, 102 2-5°. Diagnosis—diphtheritic, pharyngitis.

Treatment.—Gargle: acid carbolic, glycerine and lime water.

Tonic: tinct. ferri mur., pot chlor., glycerine and syr. Ordered liberal diet.

November 17: No change in general condition; false membrane completely covers tonsils, dipping low down into pharynx and into posterior nares; nasal mucous membrane congested and slight catarrhal discharge; application of tinct. ferri chlor. and acid carbolic, and glycerine, was made directly to membrane. She was so set against food and medicine that it was impossible to get her to take one-tenth the quantity of either that she should have had. This condition of things continued with but slight changes to November 28. Her temperature more often below normal than above it. Pulse always extremely small and rapid; membrane sloughed and was picked off in pieces as fast as they became detached, but in a few hours the membrane became as thick and as prominent as ever. This was repeated a number of times during her sickness. Stimulants and strong nourishment was urged, but very sparingly taken. Parotid glands indurated and extremely tender. Small doses of quinia sulph. were added to tonic mixture.

On the 28th her throat began to improve a trifle, the right side had not been as bad as the left and was at this time in quite a healthy state, but the left had sloughed deep and did not tend to heal. The patient was very weak and feeble and had no disposition to rally. Her nose gave her considerable trouble during the whole of her sickness. The membrane was inflamed and discharged freely. When she swallowed fluids a small portion would return through the nose. She grew weaker and weaker, and finally died from exhaustion December 1.

The brothers, sister and mother of this patient were victims of pharyngitis, but I was wholly unable to detect any false membrane.

Case II.—December 26: I was called to see Minnie Craze, aged twelve years, a well developed girl of excellent health, (the Craze house is not more than twenty feet from the Bennett house). She had been complaining about thirty-six hours with severe pain in back, head and limbs, also alternate fever and chills all night, and very sore throat. The parotid and other cervical glands were swollen and tender; face congested; bowels regular; tongue coated; breath fetid; membrane lining throat as far as could be seen was inflamed; tonsils slightly swollen; nasal mucous membrane congested and discharging mucus. Pseudo membrane was just making its appearance over both tonsils. Pulse, 120; temperature, 102°. Diagnosis—malignant diphtheria.

For the next five days I made frequent visits and applied medicines to throat. She was a good patient, taking nourishment and medicine as frequently as desired. The false membrane continued to thicken and spread, covering every particle of mucous membrane and extending on to hard palate; expectoration was very free. The nasal passages discharged blood, pus, shreds of membrane and mucus in large quantities. Portion of fluids given by mouth would escape through nose. Pulse continued rapid and strong; temperature not above 103° until a few hours before death. On Wednesday, the 28th, I wrote Dr. Lawbaugh to come over and see a case of diphtheria. He came in the afternoon and verified my diagnosis. The membrane sloughed and was picked off in pieces as fast as they became loose, and at no time was the removal of a piece followed by a particle of blood. The membrane reformed as tenacious and firm as ever. The throat and glands continued to swell until all traces of neck was destroyed. She died from blood poison December 31.

Five days from my first visit she had cough which was moist and hoarse, but respiration was not very much embarrassed. I endeavored to sustain her with stimulants and liberal diet—she had no appetite for food, but took a reasonable amount of beef tea and milk punch. The nasal passages were syringed out with tepid water with a little salt, and occasionally with tepid water, glycerine and a small amount of carbolic acid. The solutions applied to throat were mild, and applied often. She took pot. chlor., tinc. ferri chlor. and quinia.

Case III.—December 29: George Craze, aged nine years, complained of pain in the head and limbs; sore throat; no appetite, and languor; cervical glands slightly swollen; membrane of pharynx and tonsils inflamed; complained of pain when he swallowed, and tenderness of glands when pressed upon; bowels regular. Pulse, 100; temperature, 101°.

This case was mild and in about two weeks the patient completely recovered. The membrane developed on both tonsils and reached into the nose, which gave him a great deal of trouble, discharging freely and irritating the upper lip considerable. The nostrils were syringed; applications were made to the membrane every hour with carbolic acid, tinc. ferri mur. and glycerine, also pot. chlor. gargle.

Case IV.—December 30: Frank Craze, aged fourteen years, was taken with sore throat, pain in head, limbs and back, alternate hot and cold flashes; bowels regular; cervical glands swollen and tender; deglutition difficult and painful. Severe faucial inflammation, tonsils swollen and false membrane just making its appearance; nasal membrane congested and discharging mucus. Frank was a very sick boy, but recovered after nearly four weeks confinement. His temperature was never higher than 103°; pulse was rapid and feeble; fluids escaped through the nostrils, and the membrane was very much inflamed and discharged blood, pus and mucus with shreds of membrane very freely. Had mild loose cough and expectorated freely. False membrane sloughed and was removed and came away with gargle, but reappeared very rapidly. Applications were made to false membrane every hour. He was steamed with lime slacked in hot water, (all the patients had been steamed in same manner) with apparent relief.

Cases V and VI.—During this time Richard Craze and Frances Steck, aged respectively twenty and ten years, had severe pharyngitis and tonsilitis, no membrane forming in Craze's, but small amount in Steck's throat; both soon recovered.

Case VII.—January 13, 1882: In the evening I was called to see Elizabeth Rule, aged eleven years, (house one-fourth of a mile from Craze's or Bennett's) and I could find no clue to any exposure. She had been sick all day, complaining of hot and cold flashes, pain in head, back and limbs, cervical glands on both sides of neck swollen and tender on pressure. Temperature, 103 2-5°; pulse, 136; respiration, 32. Urine scanty; skin dry; tongue coated; bowels regular; no appetite; thirsty; breath very foul; tonsils swollen and patches of false membrane on both. Pain on swallowing; membrane of nose irritable and discharging. Diagnosis—diphtheria.

January 14: Morning temperature, 97 2-5°; pulse, 104; respiration, 24. False membrane covering all of both tonsils dipping down into throat out of sight. There is a nasty ichorous discharge from nostrils which excoriates the lips. Fluids return through the nose. Evening temperature, 98°; pulse, 104; respiration, 20.

January 15: Morning temperature, 98°; respiration, 24; pulse, 112; sleep broken; takes nourishment when forced; urine shows small amount of albumen; membrane detached in some places, very thick and tenacious; discharges from nose and throat very free. Evening temperature 98 2-5°, pulse 100, respiration 20; urine more abundant.

January 16: Morning temperature 98 4-5°, pulse 116, respiration 20. Discharges from nostril muco-purulent and very abundant: portions of membrane detached and do not reappear as rapidly as at first. Evening temperature 98 2-5°, pulse 100, respiration 20; cervical glands not as much swollen and less tender; swallows better; discharges from nose improving; appetite improving; from this time her improvement was slow but sure.

Case VIII.—January 26: Stephen Rule, aged six years, an exceptionally healthy child, was taken with diphtheria in mild form; small amount of false membrane over tonsils, but at the end of a week he was as well as ever. His father made the remark, "Steve is tough, nothing will hurt him." I was surprised to see the father after me to see Steve the same day (February 2). I found the little fellow suffering from membranous croup. Steaming and pilocarpin failed to produce the least softening or loosening of the membrane. Dispnœa gradually increased until about forty-eight hours from seizure when he died from suffocation. Træcheotomy was proposed but refused.

Case IX.—February 6: Was called to see Mrs. Cocking, aged twenty years, found her complaining of sore throat, pain in head, back and limbs; tongue coated; breath foul; cervical glands indurated and tender; membrane of throat dusky red; small patches of false membrane, which subsequently covered both tonsils; painful to swallow; nasal membrane irritable and discharging muco-purulent matter. She was confined to her bed about ten days and to room about two weeks, but made a good recovery.

Case X.—April 25: Henry Chin, aged sixteen years, complained of severe pharyngitis; pain in head and limbs and langour; loss of appetite; pain on swallowing; cervical glands sensitive; tonsils swollen, with false membrane covering both; nasal membrane slightly irritable; bowels regular. Temperature 101°, pulse rapid and breath fetid. This is the ninth day of his sickness; false membrane is nearly all gone; he swallows without pain; swelling nearly gone from gland and neck. He has a little disposition to take nourishment and is improving as fast as could be expected. Every precaution has been taken to disinfect and prevent the spread of the disease, but I am satisfied that this country will have its full share of diphtheria. What is to prevent it? Every physician in active practice meets with strange and unlooked for occurances nearly every day of his life.

EDITORIAL BRIEFS.

Charles Darwin's Death.—The work of this great scientist is finished. To him, more than to any other man, belongs the credit of the awakening in scientific studies which the past twenty-five years have witnessed. For conscientious and thorough work, his equal has never lived. Every experiment was subjected to the most exact conditions, and its results stated without bias or equivocation. He lies in Westminster Abbey, next to Sir Isaac Newton, and the sacred old Abbey contains the dust of no kinglier or saintlier man than Charles Darwin.

A Bogus Medical College.—*The Detroit Free Press* has the credit of exposing in its infancy a bogus medical mill which was being established in Detroit. One Tom Skuce, under the name of Dr. H. S. Thomas, a disciple of Buchanan, was the leader of the enterprise. A prospectus of the proposed "University" with a long list of professors and "venerands" was issued. It seems that but few of the professors had any real existence, and these few were of most unsavory fame. The exposure of the concern by the *Free Press* has been so thorough that the "venerands" will hardly dare to proceed in this fraud. They will probably seek greener fields and richer pastures.

MICHIGAN STATE MEDICAL SOCIETY.—The annual meeting of this society was held at Ypsilanti, May 10 and 11. The attendance was small, but some very good papers were read. Without making any comparisons with others, we were specially interested with the one by Dr. Burr, on the "Insanity of Masturbation," one by Dr. Connor, giving the clinical history and postmortem examination in a case of Tumor of the Brain, and the one by Dr. Wade, on Antisepsis.

We are sorry that a few men took occasion to vent a little spleen and show how contemptibly men can act. In view of the fact, that no banquet or excursion was offered, Dr. Maclean asked the members of the society to attend his clinic at Ann Arbor, and witness an ovariotomy, early on the morning of the second day. The time was so arranged as not to interfere with the work of the convention to any serious extent. A large number of the members did attend the operation; but under the plea that many members would leave at 11 A. M. the second day, the society was induced to change the order of business and elect officers at a time when those attending the operation should be absent. Moreover, during this time, Dr. Pratt, of Kalamazoo, took occasion to read a paper, giving the history of a suit of malpractice against a homœopathic physician, in which Dr. Maclean had given evidence, and Dr. Pratt took occasion to criticise Dr. Maclean's testimony. It is very strange that Dr. Pratt took occasion to read this paper during Dr. Maclean's absence, and when it could have been read at another time just as well. The invitation was extended as an act of courtesy to the society, and was so appreciated by many as was evidenced by the attendance. The history of the malpractice case is briefly as follows:

A man with an ununited fracture of the humerus, came to the University hospital, and endeavored to get Dr. Maclean to say that the non-union was due to maltreatment. Dr. Maclean would not listen to the patient's story, but advised him to drop all ideas of a suit. The man went home and wrote to Dr. Maclean several times about his case, and the treatment he had received from his physician. These letters were unanswered. Finally, the suit was begun, and Dr. Maclean was subpœnaed. On the stand he was asked to give his opinion on this hypothetical case: Suppose a man with a fracture of the humerus just below the surgical neck, should be treated by having three short splints—each about three inches long—applied, fastened with tape, and the splints removed every day and the parts moved to see if union had taken place; would such treatment be good surgery? Dr. Maclean answered that it would not be good surgery. The jury brought in a verdict for damages for the plaintiff. The defendant was a homœopathic physician, and if he treated the fracture as stated in the hypothetical case was certainly an incompetent person. But Dr.

Pratt was in the employ of the defendant or his lawyer. Dr. Pratt held that non-union was not due to the method of treatment, and held that Dr. Maclean should not have given the testimony that he did. At least, we understand, that this was the manner in which Dr. Pratt treated the subject, as the paper was read while we were away attending Dr. Maclean's operation. When we returned the paper was being discussed, and two or three members expressed the opinion that the non-union was due to some unknown cause—something, anything—but not to the treatment. A motion was made thanking the judge who had set aside the verdict of the jury. We are sorry to say, that the maker of this motion, withdrew it before it came to a vote. We were anxious to see how many of the members of the society would vote in favor of the motion. The mover of the motion should have incorporated in it a request that the homœopaths and all other quacks join in the praise of this "righteous judge." We have no law in Michigan regulating the practice of medicine; any cobbler may act as a surgeon, and however bunglingly he may do his work, he may after this be certain that he will receive the support of some of the members of the State Medical Society. The truth is, there are some men who will league with homœopaths or any other quacks who will help them fight their private battles, and these are the same men who howled so loudly a few years ago, when a homœopathic school was established on the same forty acres with the department of medicine and surgery, of the University of Michigan.

The society took no action on the new New York code. We understand that some of the members favor the new code.

The following officers were elected:

President—Geo. W. Topping, Dewitt.

Vice-presidents—S. S. French, Battle Creek; Hugh McCall, Lapeer; L. D. Bliss, Saginaw City; A. M. Stevenson, Adrian.

Secretary—George E. Ranney, Lansing.

Treasurer—G. R. Smart, Hudson.

Delegates to the American Medical Association—Foster Pratt, Kalamazoo; C. W. Morse, Dowagiac; John Andrews, Paw Paw; W. N. Smart, Grand Haven; Hugh McCall, Lapeer; Horace Tupper, Bay City; Geo. W. Green, Three Rivers; L. W. Bliss, Saginaw City; W. F. Breakey, Ann Arbor; Eugene Smith, Detroit; H. J. Reynolds, Orion; Amos Crosby, Albion; William Brownell, Utica; C. V. Tyler, Bay City; J. H. Jerome, Saginaw City.

MEDICAL ITEMS.

THE Illinois State Medical Society held its annual meeting at Quincy, May 16, 17 and 18.

SIR JOHN R. MACCORMIC an eminent London Surgeon and Secretary of the late international medical congress, is dead.

DR. JOHN T. HODGEN, of Saint Louis, ex-president of the American Medical Association, died at his home April 28, of acute peritonitis.

THE venerable Professor James R. Wood, so well known to all Bellevue students and renowned all over the world for his skill as an operator, died May 4.

IN pyrosis:
℞. Sodii Sulphitis.. ʒvj.
Mucilaginis simplicis........................ f℥iv.
M. S. A teaspoonful every three or four hours.

IN indigestion:
℞. Acidi muriatici diluti........................ fʒij.
Infusi gentianæ................................ f℥iv.
M. S. A tablespoonful after each meal.

FOR pulsating tinnitus aurium:
℞. Acidi hydrobromici diluti................. fʒij.
Aquæ puræ....................... .... f℥viij.
M. S. A tablespoonful three times per day.

As a local application to the membrane in diphtheria:
℞. Acidi lactici.. ʒij.
Aquæ.. f℥j.
M. S. Apply with a swab.

IN renal hemorrhage:
℞. Acidi gallici....................................... ʒij.
Aquæ puræ.......... .... f℥viij.
M. S. A tablespoonful every three or four hours as long as the urine contains blood.

DR. DUDLEY, after trying various other means to restore a patient, who had taken two ounces of laudanum, injected three drachms of the tincture of capsicum into the rectum. The effect seemed almost magical and the patient soon was walking about briskly.—*Chicago Medical Review.*

A TONIC:
℞. Acidi phosphorici diluti.................... fʒj ss.
Tincturæ nucis vomicæ..................... fʒj.
Extracti cinchonæ flavæ fl................ fʒij.
Aquæ menthæ piperitæ, q. s. ad........ f℥viij.
M. S. A tablespoonful after each meal.

ERGOTIN suppositories are recommended in the treatment of uterine fibroids, menorrhagia metorrhagia and chronic metritis:

℞. Ergotin..	0	25—0	50
Cacao butter...	1	50	
Vaseline q. s...			

M. Make into one suppository.

The post-graduate faculty of University Medical College of New York City has resigned. They state that the promises made of doing post-graduate work have not been fulfilled. There is a probability that this faculty will organize a new medical school in New York City as a department of Cornell University.

Dr. Murrell, of London, thinks that the Bethesda water, is worthy of trial in Bright's disease. We have used several barrels of the water in the treatment of chronic cystitis and regard it as a valuable adjunct to certain drugs. A large amount of the water may be taken without causing any discomfort.

Dr. Parker (*New England Medical Monthly*) uses the following in gonorrhœa:

℞.	Zinci sulpho-carbolatis	ʒj.
	Mucilaginis acaciæ	f℥j.
	Ext. opii aquæ	℈j.
	Aquæ	f℥vj.

M. S. Use as an injection night and morning.

The following is recommended by the *New England Medical Monthly* in amenorrhœa with torpid circulation:

℞.	Potassii iodidi	gr. xviij to xxx.
	Ferri et ammonii cit	gr. xl.
	Tincturæ nucis vomicæ	fʒj.
	Infusi quassiæ, q. s. ad	f℥viij.

M. S. One-sixth part, three times per day.

Köhnborn recommends, in the night sweats of phthisis, the skin to be dusted with:

℞.	Acidi salicylici	partes iij.
	Amyli	partes x.
	Talci	partes viij.

M.

A cloth should be held over the face during the dusting to prevent coughing. The arrest of perspiration is confined to the parts to which the application is made.

The following is good for removing the accumulation in ascites:

℞.	Pulveris digitalis	
	Pulveris scillæ	āā gr. xvj.
	Elaterii	gr. j.

M. Et in chartulas sexdecem (16) divide. S. One powder in water three times per day.

The quantity of elaterium may be increased; or this ingredient may be omitted if only the diuretic effect of the powder is desired.

CORRESPONDENCE.

MICHIGAN STATE BOARD OF HEALTH.

Reported for THE PHYSICIAN AND SURGEON.

The regular quarterly meeting of this Board was held at Greenville, Michigan, on April 11, 1882, in connection with the sanitary convention held at the same time and place. The following members were present: Rev. D. C. Jacokes, of Pontiac; J. H. Kellogg, M. D., of Battle Creek; Arthur Hazelwood, M. D., of Grand Rapids; John Avery, M. D., of Greenville; and Henry B. Baker, M. D., of Lansing, secretary; William Oldright, M. D., chairman, and J. J. Cassiday, M. D., member of the newly-appointed provincial board of health of Ontario, were present and were invited to take seats in the meeting. In the absence of the president of the Board, Dr. Jacokes presided.

The secretary presented the subject of inspection of immigrants and stated that the National Board of Health had granted the request of this Board for an inspection service at Port Huron, and the system would go into effect on May 1, at which time the whole system, by coöperation of several State Boards of Health, would go into effect. He suggested that the health authorities of Toledo and Cleveland be invited to join in this movement. He stated that at the meeting of the sanitary council of the Mississippi Valley, at Cairo, Illinois, April 19, this subject would be considered, and that it was desirable that this Board be represented at that meeting. By vote of the Board, Dr. Baker was requested to represent the Board at that meeting. Dr. Oldright spoke of the inspection of immigrants at Toronto, and of the importance of notification to other Boards of danger to be feared from immigrants. He also said any movement made by this Board would meet with hearty coöperation by the Ontario Board. He said the work done by this Board for the restriction of scarlet fever and diphtheria was fully as important as that for the restriction of small-pox.

The following motion was carried:

That the secretary be instructed to correspond with the health authorities of the Dominion of Canada, and the several provinces thereof, and of provincial and municipal Boards of Health where they exist, asking their coöperation in the proposed immigrant inspection service.

Dr. Hazlewood read a proposed document giving best household antidotes to be used in case of poisoning, while waiting for a physician or when one is not to be had. It was accepted and the committee authorized to modify it before publication in the annual report.

Dr. Hazlewood, committee on poisons, etc., presented a letter from Dr. Gordon, of Swartz Creek, relative to lead-poisoning by use of a feeding-bottle (which was exhibited to the Board) in which the sinker keeping the supply pipe in the milk was of lead and so arranged that all the milk had to pass over it before entering the infant's mouth. The secretary was requested to notify the manufacturer of the pernicious character of the bottle, and the report was accepted and ordered published in the annual report.

Circular 35, revised, relating to the duties of health officers, was presented, adopted, and twenty thousand copies ordered printed.

Dr. Kellogg, as special committee to prepare a circular on criminal abortion, made a report and read a proposed circular. The report was accepted, the committee continued and the subject of issuing the circular laid over.

Dr. Kellogg was requested to represent the Board at the meeting of the American Medical Association at St. Paul.

The next meeting of the Board will be on Tuesday, July 11, 1882.

TRANSLATIONS.

Translations from Dutch Journals for THE PHYSICIAN AND SURGEON.

BY J. VANDERLAAN, M. D., MUSKEGON, MICHIGAN.

AN UNDESCRIBED DISEASE OF THE NEW BORN.

BY DR. WINCKEL, ib *Deutsche Med. Wochenschrift*, 1881.

From the most prominent symptoms the author has described this disease under the name of "Cyanosis febrilis enteritica perniciosa cum hemoglobinuria."

He observed the disease in its endemic form, and gives the results of his investigations as follows:

Death took place in eighty-two per cent. of the twenty-three attacked. The disease makes its appearance on the first, second, or sometimes as late as the fourth day after birth.

Symptoms.—Cyanosis, icterus; urine of a light color or more or less of a dark-brown, which may contain hemoglobine, normal bladder epithelium, large quantity of "granular casts," red blood corpuscles, micrococci, detritus, urate of ammonia, and a small quantity of albumen; subnormal temperature; frequent dark yellow alvine discharges; increase of the white blood corpuscles, and the blood contains the remains of the broken down red corpuscles and movable bodies. No increase or hardening of the connective tissue; liver little enlarged, almost entire absence of "chest symptoms," convulsions, subsultus, nystagmus, convergent strabismus.

Postmortem examination revealed the following changes: Infarction of the papillæ of the kidney, dilatation of the stomach, ecchymoses in the intestines; enlargement of Peyers and the messenteric glands, hyperæmia and congestion of the mucous membrane of larynx and bronchi; œdema of the brain, dilatation of the ventricles, congestion with here and there effusion of blood. Of the ætiology nothing is known.—*Praktizeerende Geneesheer.*

A NEW CORPUSCLE IN THE BLOOD OF THE MAMMALIA AND ITS RELATION TO THROMBOSIS AND COAGULATION OF BLOOD IN GENERAL.

Professor Bizzoreo, of Turin, in a communication to the *Centralbl. f. d. Wissench*, Number II, 1882, describes it as follows:

In the small blood vessels of the mammalia (in the messentery of rabbits and dolphins under the influence of chloral) when using a high power of the microscope, there will be found, besides the red and the white corpuscles, yet a third variety, light, colorless, oval or round, flat or lens-shaped discs, having a diameter of from one-half to one-third of that of the red globules, and irregularly distributed.

The reasons why they have not been discovered by others who have investigated the circulation of the blood, the author gives as follows:

(1) Because they are colorless and very transparent.

(2) Because numerically much less than the red and very much more difficult of detection than the white.

(3) Because of the difficulty connected with the direct investigation of the circulation in mammals, and that consequently such investigations have been almost exclusively confined to cold-blooded animals.

These blood discs are found as well in recently drawn blood as in that circulating; in drawn blood they are most frequently found in the immediate neighborhood of the white, or rise to the surface of the fluid and adhere to the cover-glass.

These bodies by their quick change and rapid decomposition give rise to that granular appearance of freshly drawn blood, which some histologists have described as "granular matter" (*kornchen haufen*).

By the aid of proper reagents they may be kept unchanged for an almost indefinite length of time. Such a reagent the author found to be a neutral solution of chloride of sodium colored with methyl violet. This solution leaves both the red and the white corpuscle unaltered.

In man, in whom these disks change very rapidly, the following method to detect them is advised: Prick the finger with some sharp instrument, and at the wound apply a drop of the above solution, squeeze out a drop of blood, which immediately mixes with the solution and prepares it for microscopical investigation. The most beautiful discs are obtained from the dolphin.

As to the origin and source of these bodies Bizzoreo has as yet no idea; but he does not think them to be derived or in any way related to the white corpuscle, because the discs have a typical form and there is nothing in the contents of the white having any similarity to them.

These discs, so abundantly present, will have to be considered, says the author, in the future study of the functions and changes of the blood. To me their value is evident, both as regards their numerical increase in many pathological conditions (as for instance after venesection) and as to their influence in the formation of thrombi and of the coagulation of the blood. In the formation of thrombi these discs form the larger part of the white thrombus of mammals, giving rise to that granular appearance, which is often found between the white corpuscles, and which has been mistaken for shriveled up white blood cells, or coagulated fibrin.

To these bodies very probably belongs the influence of coagulating the blood, by Mantegazza and A. Schmidt ascribed to the white blood cells. I have come to this conclusion for the following reasons:

(1) I have never been convinced that during coagulation the white corpuscles fall to the bottom of the liquid in such large numbers as has been described by A. Schmidt; for, in the circulating blood of mammals, the white are comparatively few, and after venesection, provided the blood flows in an indifferent fluid I have never *seen* the white blood cells thus "sinking to the bottom" as held by Schmidt.

(2) When a drop of fresh blood is watched, it will be found that the time at which coagulation begins, exactly corresponds to the time at which these blood discs begin to decompose.

(3) If a part of a blood vessel be taken between two ligatures the blood it contains will remain fluid for several hours, and during all this time these blood discs retain their form and shape, but they begin to change within a minute's time in blood deprived of the influence of the serous coat of the vessels.

In consideration of all this it is highly probable that these blood discs directly influence the coagulation of blood.—*Praktizeerende Geneesheer.*

VOMITING OF URINE.

Generali and Tovini describe a case, the like of which there is none on record in medical literature.

A lady aged thirty-three years, syphilitic, was taken with inflammation of the lung, which came to a crisis on the tenth day. Soon after she suffered from an attack of peritonitis with serous effusion in the peritoneal cavity. Up to this time the secretion of urine had been normal, but the quantity suddenly fell to five hundred grams, and even this quantity gradually diminished till perfect anuria resulted.

The patient now began to vomit a fluid, which, according to the statements of herself and her physicians, had all the physical properties of urine.

But since inspection alone is not of any real value in determining the true nature of the fluid it was subjected to a microchemical analysis. Now it became evident that the vomited liquid contained all the elements found in urine; urea, phosphates, chlorides, alkaline sulphates, phosphate of magnesia, carbonic acid and much pigment.

The microscope revealed epithelial cells from the œsophagus and stomach, mucus and crystals of uric acid derived from the decomposition of the urates by the digestive acids.

As long as this state of things persisted not a drop of urine could be obtained from the bladder. After the lapse of a month, the patient had entirely recovered.—*Cronica medico quirururgica de la Eabana*, Decembre 1881, page 583: *Journal de Médecine de Paris*, 1882, Number V: *De Praktizeerende Geneesheer* 1882, Number III.

Translations from French Journals for THE PHYSICIAN AND SURGEON.
BY HAROLD GIFFORD, B. S.

INFRA-CLAVICULAR TYMPANITIS IN ITS RELATION TO PLEURITIC EFFUSIONS.

M. Grancher recently made a communication to the societé medicale des hôptaux, which we reproduce almost entire on account of the great practical importance of the points on which it touches, in judging of the state of the lung in pleuritic effusions.

This point in diagnosis generally is obscure, but the signs pointed out by M. Grancher are clear, precise and easy to recognize. He expresses himself as follows:

I wish to consider infra-clavicular tympanitis with regard to the prognosis in pleuritic effusions, from which latter it primarily results.

Now, it is not by studying the fine variations in the pitch and intensity of the tympanitis that we can reach the conclusion which we seek, but rather by noticing in what combinations the other physical signs present themselves in connection with the tympanitis. Setting out with this idea, we find that there are three principal combinations of signs: (1) Where infra-clavicular tympanitis coincides with an increase, both of vocal fremitus and of the respiratory murmur, (2) where the tympanitis is accompanied by an increase of the vocal fremitus, but a decrease of the respiratory murmur; and (3) where with tympanitis we find a diminution of both the fremitus and the respiration.

Now, each of these three combinations corresponds to a particular state of the lung. All clinicians understand the importance of the problem which presents itself. Given a pleuritic effusion, what is the condition of the lung? On that condition in fact often depends the future of the pleurisy.

That I may not incur the reproach of advancing purely theoretical notions, I add confirmative autopsies to each of the three divisions which I am about to consider.

I.—In certain pleurisies with effusion, in certain pneumonias, the infra-clavicular tympanitis is accompanied by marked peurile respiration and a notable increase of the vocal fremitus, not only in comparison with the physiological state, but with that of the other side.

When this combination is observed, I conclude that the parenchyma of the lung is sound, compressed no doubt by the effusion, but taking only an indirect part in the morbid process. Whence, the conclusion that the pleurisy is uncomplicated and offers every chance of a complete recovery. I purposely omit mention of the adhesions which result from every pleurisy.

I have five cases which support this proposition. Three cases of pleurisy are now entirely well. One of pneumonia died and gave us an opportunity of verifying the diagnosis regarding the state of the superior lobe of the lung. It was found healthy, elastic and crepitant, while all the rest of the lung was in the second and third stages of hepatization. The same verification was given by an autopsy in a case of hydrothorax of cardiac origin.

I therefore believe myself to be justified in saying that the *associated* infra-clavicular tympanitis, that is, one united to increased vocal fermitus and increased respiratory murmur, indicates a healthy state of the superior lobe of the lung. One may adopt an abbreviative formula and call this variety *tympanitis of supplementation.* In fact, what takes place in the part of the lung which floats above the effusion is only an expression of a more general law which may be thus formulated: *All supplementary respiration is accompanied by an increased resonance and increased vocal fremitus.*

II.—The second combination of physical signs consists in infra-clavicular tympanitis, increase of vocal fremitus and decrease of respiratory murmur. Sometimes the latter is very much diminished; almost to zero; sometimes it is but moderately weakened, and sometimes it is both weak and rough, the pitch of the inspiration being sensibly lowered at the same time. Each of these degrees, each of these shades of variation, has its value in judging of the lesion, and in the prognosis.

In this case, the tympanitis is no longer *associated* with the two other signs; one of these, the respiration is modified inversely; that is, it is found decreased, while the resonance and vocal fremitus are increased. We have what may be called a *dissociation* of the physical signs.

Now, in the daily observance of cases of pleurisy, nothing is more common than to meet with this type; this combination of the phenomena furnished by the examination of the infra-clavicular region. The physician should draw the conclusion therefrom that the lobe of the lung, which is still uncovered (as shown by increased fremitus) by the effusion, has some special lesion; a concomitant, a complication, or even a cause of the pleurisy. This lesion may be a simple congestion or may be of a tuberculous nature; and it persists, after the disappearance of the effusion, to disappear later itself, or if there be local tuberculosis to develop after a longer or shorter time into phthisis. I have seen more than thirty cases of this type since I have been studying the subject, but have had but two autopsies, which, to be sure, were entirely confirmatory. Here is an ordinary case:

A vigorous man has an attack of pleurisy; at the same time he coughs and expectorates a little. When he enters the hospital, several days after the beginning of the attack, we discover, together with a pleuritic effusion, this particular dissociation of the physical signs in the infra-clavicular region. With or without tapping or blisters, the effusion disappears and the lower lobe of the lung gradually resumes its functions; the fremitus, the resonance, the respiration reform at the base, but the superior lobe remains, on the contrary, in almost the same state as when first examined. The tympanitis has been replaced by a slight dullness in percussion, but the fremitus is still exaggerated and the respiration still weakened. This state of things lasts a month or two with little change, and the patient, who has regained part of his strength, eats well and is tired of the hospital, takes his departure, believing himself cured. But he returns later with well-marked phthisis pulmonalis. Unfortunately in a large city, with numerous hospitals, it rarely falls to the same physician to see both the initial pleurisy and the ultimate phthisis.

I have, however, followed one of these patients from the beginning to the end of his misfortunes, and the autopsy fully confirmed the diagnosis made on the day that he entered the hospital; namely that of tuberculous congestion of the lung, with pleuritic effusion.

However, these cases do not all have a tragic conclusion; first, because even if the congestion be tubercular the phthisis sometimes proceeds slowly with long periods of remissions, and can even be arrested and recovery ensue. Then also the fact of congestion as shown by the physical signs, does not necessarily indicate a tuberculous origin for the lesion. This seems to be proved by certain rare cases, in which the normal respiratory murmur and the other physiological signs reappear gradually after the absorption of the effusion. But these cases are exceptional. Infra-clavicular tympanitis accompanied by an exaggerated fremitus and diminished respiration, are commonly the result of pulmonary tuberculosis masked by pleuritic effusion. This variety of infra-clavicular resonance may be called the tympanitis of congestion in contra-distinction to the tympanitis of supplementation.

III.—A third combination may be found with tympanitis. The fremitus is diminished or lost and at the same time the respiratory murmur is equally weakened. This occurs when there is a compression of the root of the lung or of the larger bronchi. It may be found with œdema of the lungs, associated with hydrothorax. By these signs I have diagnosticated a mediastinal pleurisy, extending above the hilum of the left lung and compressing the roots of the bronchi, and the autopsy confirmed the diagnosis.

But this third variety, which we may call the tympanitis of compression and pulmonary œdema is much less frequent than the first, and, above all, than the second variety, which is much the most common. To sum up, there is found in many pleuropulmonary lesions, but particularly in pleurisy with effusion, a certain variable combination of physical signs which enables us to decide as to the normal or pathological condition of the superior lobe of the lung.

When there is a parallel *association* of increase in all the signs given by percussion, auscultation and palpitation, the lung is sound. When there is a *dissociation*, that is an inverse modification of the signs, two classes may be met with: (1) Where an increase of resonance and fremitus occurs with a decrease of the respiratory murmur, there is then a congestion of the lung, which is generally tuberculous in character; (2) when tympanitis is accompanied by a diminution of fremitus and respiratory murmur; a rare condition, indicating compression of the large bronchi or pulmonary œdema.

Translations from Russian Journals for The Physician and Surgeon.

BY RALPH D'ARY, M. D., ROMEO, MICHIGAN.

THE FUNCTION OF THE HEPATIC VEINS.

(LABORATORY OF PROFESSOR BOTKIN.)

Abernethy, Lawrence, Kiernan and Wilson have described cases where the v. portæ opened immediately into the v. cava inferior, the liver showing but slight changes and elaborating bile; Gintrac, Frerichs, Alexander, Leyden, and others give instances of thrombus of the v. portæ, where the liver continued its function, being but slightly altered or even showing an increase in size. These cases, as well as the condition of the liver cells in cirrhosis, have given rise to the question: By what means is the nutrition of the liver maintained in these cases? At present three suppositions may be quoted in answer: The liver is supplied with blood either (1) by newly-established collateral circulation, or (2) through the hepatic artery, or (3) through the inferior v. cava.

In order to determine the answer the following experiments were undertaken:

We united, in dogs, the v. cava inferior with the v. portæ, taking especial care to have the latter thoroughly ligated at its entrance into the liver.

The dogs live from three to six days. On autopsy the liver is found of normal size, full of blood, and on most careful macroscopic examination it presents nothing abnormal. Some of the livers were examined microscopically also, but we failed to detect any necrotic disintegration of cells. The gall-bladder in all was full of bile, and bile was found in the bowels. During life the dejections had remained normal in color. We made over twenty of these experiments, and I repeat, that we never could detect a single focus of mortification (necrosis) in the liver.

Schiff, having gradually obliterated the v. portæ, had observed the formation of a collateral circulation, but in our experiments the liver could not have been nourished in this way, since this collateral circulation could not establish itself in three to five days, or at least not in a degree sufficient to take the place of so large a vessel as the vena portæ. In our autopsies we especially observed the hepatic artery, but did not find any decided change—of this, however, we shall speak later.

II.—We repeated the above experiments, with the addition of ligating the hepatic artery as well.

One of the dogs lived thirty-eight hours; another fifty hours; three dogs lived about twenty-four hours, and one—four times twenty-four hours. After completing the union of the v. portæ with the v. cava inferior, we had carefully emptied the gall-bladder.

On autopsy the livers were found of normal size and full of blood, and they presented no foci of mortification. In the dog that had lived fifty hours, we had also tied the hepatic veins in one lobule of the liver. This lobule we found completely mortified, all the rest of the liver being perfectly normal. The dog that lived thirty-eight hours, urinated twice, the urine containing a great deal of biliary pigments. Previous to the operation its urine had contained none. At the autopsy the bile was easily pressed out of the gall-bladder into the bowel.

These experiments prove that nutrition of the liver goes on when the v. portæ and a. hepatica are simultaneously ligated.

In this second series of experiments it was equally impossible that collateral circulation could have become established. Therefore, nutrition of the liver could go on only through the hepatic veins. Cohnheim and Litten, and Claude Bernard have shown the possibility of nutrition of the liver through the hepatic veins, in several pathological cases. Claude Bernard, speaking about sugar in the liver, expresses the opinion that when the portal vein is obliterated, the blood may enter the liver from the lower vena cava, apart from the collateral ways of circulation. But he hardly attached sufficient importance to this circumstance, nor are his data sufficiently conclusive. Cohnheim and Litten ligated the portal vein and hepatic artery and injected the animal with anilin, with the result of producing a more marked coloration of the central vein and central capillaries of the hepatic lobules (the intra and sub-lobular veins). Unfortunately, however, Cohnheim and Litten had omitted to take care of the lymphatic vessels, through which, possibly, the injected fluid may have penetrated into the liver. This is made more probable by the facts that their mode of injection occupied from one to two hours, and that after ligation of the vena portæ and a. hepatica the blood pressure in the capillaries of the liver must be considerably lower than normally.

In order to determine the above, we made the following experiments:

III.—We ligated, in dogs, the vena portæ with the lower vena cava; next to the liver, two or three ligatures were placed on the whole hepatoduodenal ligament, and also separately on the vena portæ, and the arteries and lymphatics; from two to four hours after the operation, a solution of anilin in water containing one-half per cent. of chloride of sodium is injected into the external jugular vein; about five or fifteen minutes after the injection, or even during the injection, the animal is killed. The liver, on being promptly removed, is found to be distinctly colored, and upon micro- and macroscopical examination the distribution of color is found to be such as is described by Frerichs as occurring after injection of the hepatic veins. Under the microscope the intra-lobular vein is seen to be colored most intensely, the color shading off to the periphery of the lobule in a halo, the periphery itself remaining unstained. These experiments were undertaken repeatedly with always the same results, hence we claim the right to conclude that in these cases the anilin could have reached the liver only through the hepatic veins, and since the vena portæ and hepatic artery had been obliterated, we unavoidably arrive at the conclusion that there has been regurgitation from the lower vena cava through the hepatic veins into the liver. In this way we explain the continuance of vitality in the liver under conditions such as those in the experiments described above under *II.*

How, then, are we to explain this regurgitation?

Cohnheim states that regurgitation from veins into arteries that have become obliterated in some part of their course takes place because in the artery the blood pressure is equal to zero, whilst in the vein with which the obliterated artery communicates by means of the intermediate capillaries, the pressure is at least positive. Thus a backward current is produced.

Professor Pashutin justly denies the correctness of this explanation, and declares it to be contrary to the laws of physiological hydrodynamics. He shows that the pressure in the region of the occluded artery cannot possibly be equal to zero, but must equal the pressure existing in the terminal veins of the region. He says: Suppose the pressure at the place of occlusion to be equal to forty-five millimetres, Hg.; in the capillaries of the artery—forty millimetres, Hg., and where the minutest veins enter larger venous branches—thirty-five millimetres. Then, after occlusion of the artery the blood will continue to flow from the side of greater pressure toward that where the pressure is less. But this will take place only till the pressure in the region of the occluded artery is lowered to the degree of pressure at the mouths of the above-mentioned veinlets, namely, to thirty-five millimetres." The correctness of this view cannot be doubted, and it can easily be verified by experiment with rubber tubes. Therefore the existence of venous regurgitation into the liver cannot be explained on the ground that blood pressure in the liver is reduced to zero, in consequence of the ligation of the portal vein and hepatic artery. Evidently the blood pressure in the hepatic blood vessels could sink only to the level of the pressure in the lower vena cava at the place where it receives the hepatic veins.

We know how decidedly the blood pressure in the large veins varies under the influence of the act of respiration, rising above the positive and even becoming negative. This one element—respiration—is quite sufficient to explain the possibility of regurgitation through the hepatic veins into the liver. Let us suppose that during the act of inspiration—the vessels being ligated as above—the pressure in the hepatic blood vessels and the lower cava has become equal, then expiration alone would cause sufficient tension in the lower vena cava to drive the blood out of it into the hepatic vessels. To this influence we may add the effect of the cardiac contractions, of position of the body, arterial pressure, nervous influence on the veins themselves, and also the contractility of the capillaries of the occluded region, which may possibly be altered under the influence of the changed chemical properties of the contained blood, (such as the variation in the amount of its carbonic acid). All these causes acting together, are sufficient to explain the regurgitation in our case, and we must look upon it as the direct consequence of normal physiological acts, such as respiration, cardiac rythm, etc., and *not* as the result of the ligation of the vena portæ and a. hepatica.

Having arrived at this conclusion, we are naturally led to ask: Does not this regurgitation into the liver, through the hepatic veins, exist also in normal conditions of the hepatic circulation, when the vessels named are not ligated?

In order to determine this we made the following experiments:

IV.—We divided the abdominal aorta in dogs, between the crura of the diaphragm, above the superior cœliac artery, and we injected into the peripheral end of the divided vessel defibrinated blood diluted with an equal part of a one per cent. solution of chloride of sodium, at a temperature of 39 to 40°, at a pressure of from two hundred and four to one hundred and sixty millimetres, hg. The blood is allowed to run out of the upper cut end of the aorta, and is thrown away. A warm solution of anilin is thrown into the crural vein, with no more pressure than is necessary to introduce it and to overcome the lateral pressure of the vessel. Thus the colored blood could reach the liver only from the lower vena cava. Two or three minutes after injecting the anilin the liver was laid bare, and was found already quite distinctly stained. .In some experiments we kept the liver in view during the whole time of the experiment, and we could then see that the liver was stained immediately after introducing the anilin solution into the crural vein. This was done *after* the artificial circulation of defibrinated blood had been established. Whilst the animal was yet living, and either during the progress of the experiment, or after stopping the introduction of the anilin, the liver was carefully removed in pieces, whilst the defibrinated blood was still being injected. If during the progress of the experiment a piece of liver was cut off, in the wound there flowed in jets, alternately blood dyed with anilin, and defibrinated blood. The substance of the liver was found to be stained as in experiments *III*, namely, most intensely around the intralobular vein. It is worthy of note, that in the last experiments the coloration was more prompt and much more intense, than in the preceding series, when the vessels had been ligated. The portal and hepatic arterial circulation did not prevent, therefore the flow of blood from the lower v. cava into the liver, but rather favored it.

In order to anticipate the objection that there might be anastomosis between the vena cava inferior and branches of the vena portæ, another series of experiments was undertaken. We injected blood separately, through rubber tubes, into the vena portæ, from a height of 40—30 millimeters, and into the hepatic artery at a pressure of 185 millimeters Hg. The rubber tubes were inserted into the trunk of the vena portæ close to the liver. The anilin was then injected into the crural vein precisely as above described. The results also were precisely the same, for upon wounding the liver there flowed from the wound, in alternate jets, the defibrinated blood and the anilin, and the liver was found stained in the manner above described. In these experiments, we invariably tied the hepato-duodenal ligament after establishing the connection between the v. portæ and hepatic artery, on one side, and the vessels containing the defibrinated blood, on the other side.

We also made the following experiments:—we tied the hepatic vein at its origin in one of the lobes of the liver, and then conducted the experiment in the above described manner. The result was that there was no trace of anilin staining in the lobe thus treated, whilst the other lobes were intensely colored.

In all these numerous experiments, the staining of the liver could be explained only by regurgitation through the hepatic veins.

We cannot, therefore, avoid the conclusion that even during a normal circulation, when the v. portæ and hepatic artery are full of blood at high pressure, there exists in the liver a retrograde venous current, caused by physiological momenta which alternately change the blood-pressure in the v. cava inferior. Perhaps these same considerations may also throw some light on the veiled question which vessel—the hepatic artery, or the v. portæ—is instrumental in the secretion of bile?

Indeed, after ligation of the hepatic artery bile continues to be secreted. Such are the statements of Malpighi, Simon, Schiff, Asp and others. We, too, have tied the hepatic arteries in dogs, and upon killing them from eight to twenty days later, invariably found the gall-bladder full of bile; whilst during the lifetime of the animals there appeared no symptoms indicating a cessation of the secretion of bile.*

And after occlusion and obliteration of the vena portæ by pathological processes the secretion of bile continues as before according to the testimony of Abernethy, Wilson, Gintrac and others.

Making allowance for the establishment of collateral circulation, Shmulevitch and Asp conclude, on the ground of their experiments, that both the v. portæ and the hepatic artery have an influence on the secretion of bile. To this we would add, on the strength of the results obtained in the series of experiments headed *III*, that the hepatic veins also have an influence on the functions of the liver.

What is the physiological necessity for this venous regurgitation? The liver, being supplied by the hepatic artery and so large a vessel as the vena portæ, why should it need a third source of supply?

The following experiments will help to throw some light on the question, although not quite sufficient to be conclusive.

**En passant* we may state here, that we never were able to discover any gangrenous processes in the parenchyma of the liver, such as Kottmeier, Betz, Cohnheim and Litten and others claim to have observed after ligating the hepatic artery.

V.—We remove the whole liver in dogs, after conducting the blood from the portal vein directly into the lower v. cava, by direct union of these vessels. We place a ligature on the portal vein close to the liver, and separately on the hepatic artery, and then a common ligature on the lig. hepato—duodenale in general. When this is done, one of the lobes of the liver is seized, and any adhesions that may be found are carefully separated, and a ligature is placed around the root of the lobe. After that the stroma of the liver is carefully separated from the blood vessels by means of a blunt broad needle, for a distance of about one inch from the first ligature, and then two more ligatures are placed immediately on the vessels, and the lobe is then finally removed. In this way the other lobes also are removed. The strictest antiseptic precautions are observed during the operation.

These experiments, with slight variations, we repeated more than twenty times. Previous to the operation we narcotized the animals with a solution of muriate of morphia, or chloroform, or both together. In some cases we removed from 200 to 400 cubic centimetres of blood, at once or gradually, within two hours after the operation, and injected into the external jugular vein a solution of ten, or twenty or thirty grams of chloride of sodium, respectively. If the bladder was not empty, it was emptied immediately after the operation.

The dogs usually lived from five to eight hours after completion of the operation. Their temperature and respiration remained normal; the pulse varied in different dogs, sometimes remaining normal. In the bladder there never was found one drop of urine, notwithstanding the injection of the above mentioned large quantities of chloride of sodium. The heart and large veins were invariably distended to the utmost with blood.

We will also notice here, that once, whilst removing the liver after having affected the union of the vena portæ with the v. cava inferior, we accidentally wounded one of the hepatic veins, and that the blood spurted from the wound in a continuous and vigorous jet. Whilst the separate lobes of the liver are being removed (therefore *after* ligation of the ligamentum hepato duodenale) the remaining lobes also become much distended with blood, and finally begin to pulsate—a fact very significant in this connection.

On consideration of the above described symptoms the question suggests itself: What causes the prompt death of the animal—in from four to eight hours?

In answer it had been suggested to me that it was caused by non-elimination of the products of retrograde metamorphosis, as shown by the non-secretion of urine. But this reason is worthless in view of the fact that animals live seventy-two hours and longer, after extirpation of the kidney. Neither could morphine poisoning be the cause of death, since fatal doses of it produce a decided lowering of the temperature, which as stated did not take place in our cases. The idea that the blood conveyed by the v. portæ is poisonous (Schiff) is disproved by the experiments of our series *I*, where the animals lived six days. That some fatal change in the composition of the blood takes place after extirpation of the liver cannot be admitted either, since the animals died as rapidly where their own blood was withdrawn and sound defibrinated blood was injected instead.

Let us consider the question: Why is the secretion of urine arrested in these experiments? It is true that the removal of the liver from taking a part in the circulation by connecting the v. portæ with the external jugular vein (as shown by me in Number XLIX, 1879, of the *Saint Petersburg Med. Wochenschrift*) does indeed occasionally arrest the secretion of urine. But the same article describes some experiments of mine which prove that the injection into the blood of urea or chloride of sodium always re-establishes the secretion of urine. Yet we could not obtain one drop of urine after introducing as much as thirty grammes of chloride of sodium into the circulation.

There remains therefore only one explanation of the anuria —namely, venous stasis. And indeed, we find the heart enormously distended, especially the right half; the veins are also distended with blood, and there is frequent hemorrhage from the tightly ligated hepatic vessels, the blood escaping in an uninterrupted stream and with great force; we have seen that the remaining non-ligated lobes of the liver begin to pulsate.

We believe therefore that our conclusion, namely, that the anuria is caused by venous stasis in the kidney is in accordance with all the other symptoms observed in our experiments. On the other hand the blood pressure in the lower v. cava would of necessity act injuriously on the heart, as a neuro-muscular apparatus, by burdening it excessively, and this circumstance we believe to be the cause of the prompt death of the animals.

The blood pressure in the lower vena cava was caused by its receiving the blood of the vena portæ directly, without interposition of the liver. If we look back we see that we had established the same direct connection of the two vessels in experiment *I*, yet the animals lived six days, the urine was secreted even in more than normal quantity, and the heart was not distended nor filled with blood. The difference between the experiments consisted in the presence or absence of the liver in the organism; consequently we must ascribe to the liver the difference in the symptoms, or in other words, that in the experiments of series I the liver served to compensate (or equalize) the blood pressure in the lower v. cava, and must thus be regarded as an indispensable regulator of the heart's task, without which the animal cannot live.—Translated in abstract from an article by J. J. Stolnikof in *E. Klin Gaz.*

CLINICAL REPORTS.

GLEANINGS FROM ANN ARBOR CLINICS.

Reported by THOMAS J. SULLIVAN, M. D.

SURGICAL CLINIC AT UNIVERSITY OF MICHIGAN.

BY DONALD MACLEAN, M. D.,
Professor of Surgery and Clinical Surgery in the University of Michigan.

TWO CASES OF STONE IN BLADDER: LITHOTOMY: RECOVERY.

Case I.—Louis C., age twenty-one years, was admitted to the hospital October 4, 1881, giving the following history:

Had more or less trouble in passing his urine ever since he was four years of age. He passes water more frequently during the day time than at night. Pain most severe after passing water, and felt at the end of the penis and down the thighs. The stream sometimes stops off short, but the patient says that by leaning forward he can feel something roll away from the neck of the bladder when the stream will flow quite freely. He has passed some blood at times. Patient's general health and appearance is good.

October 5: The patient was examined by Professor Maclean before the class, when upon passing a sound into the bladder, the most of the class could hear the click produced by the sound striking against the stone.

October 8: The patient having undergone the ordinary preparation was placed under chloroform and put in the lithotomy position. The staff was then introduced and immediately came in contact with the stone. The left lateral incision was then made, the bladder entered, stone grasped with the forceps and extracted without the slightest difficulty.

October 9, 8:30 A. M.: Pulse 100, temperature 102.5°. Patient rested very well during the night. From the 9th to the 12th the pulse and temperature did not vary very much, but on the 12th the temperature went up to 104.5°. Ordered a few doses of quinine.

October 16: Passed some water through the natural channel.

October 25: Passed all his urine through the penis.

October 30: Patient brought before the class, when the wound was found to be entirely healed. He then left the hospital feeling very well.

The next case will serve to illustrate the difficulty that is sometimes experienced in grasping the stone with the forceps.

Case II.—Walter C., age twenty-one years, was admitted to the hospital November 28, having suffered from stone in the bladder ever since he was a child.

Although the patient had been treated by a number of physicians since he was a child, Professor Maclean was the first to make the above diagnosis. His history is somewhat indefinite. Has had trouble in passing his urine since he was a child. At the age of eleven he passed some blood. He now suffers pain before and after micturition—more in the morning than any other time of the day—no blood; stream does not stop off short.

December 3: Patient put in operating position and placed under chloroform. A staff was introduced and coming in contact with the stone was held in place by Professor Frothingham. Professor Maclean then made the incision and introduced the finger into the bladder when the stone was found to be lodged behind the pubis. It was then displaced by means of the finger and fell down to the base of the bladder. An attempt was now made to grasp the stone, but on account of the depth of the bladder and numerous folds of the wall, it could not be reached. Further attempts with one finger in rectum resulted in failure.

Professor Maclean then stood up and introduced two fingers into the rectum and elevated the base of the bladder so that Professor Frothingham, upon introducing the forceps, had very little trouble in grasping the stone. Some fragments remained, but were washed out by means of a syringe.

The peculiarity in this case was in grasping the stone. This was owing to the depth of the bladder and the numerous folds of the bladder wall which seemed to cover up the stone.

I have since experimented on the cadaver and demonstrated to my entire satisfaction that the fingers may be used to great advantage in such cases, to elevate the base of the bladder by introducing them into the rectum.

The further history of this case is taken from the hospital case book as follows:

December 4, 9 A. M.: Pulse 99, temperature 99¼°.

December 5, 8 P. M.: Pulse 101, temperature 104°.

The next day the pulse and temperature were nearly normal.

From this on, the pulse and temperature varied very little from the normal.

January 5: The patient was discharged cured, the urine having passed entirely through the natural channel for more than a week.

It may be interesting to note that of twenty-one cases of lithotomy performed by Professor Maclean at this clinic, twenty have terminated in complete success.

BURSA ON BACK OF WRIST.

William S., age eighteen. This patient has a bursa on the back of his wrist, a common situation for them. When the walls are thin they can frequently be cured by pressing and bursting the walls and disseminating the fluid into the surrounding tissues. In this one the walls are thick and unyielding and resists any efforts, so I will pass a tenatome through it at once. Now you see what appears to be mucus, together with blood. The bursa is now gone, with the exception of the outline of the cyst. I will now bandage it up and to-morrow will have a fly blister applied and he will have no further trouble.

Many of these cases are transient in character, while others persist for years and are considered as the first stages of Bright's disease.

BOOK REVIEWS.

A CLINICAL HAND-BOOK ON THE DISEASES OF WOMEN. By W. Symington Brown, M. D., member of the Gynecological Society of Boston, Fellow of the Massachusetts Medical Society, etc., New York: William Wood & Company, 1882.

In looking through this work the questions arose in our mind, "*Cui bono?* What need of more books of this kind?" We believe that a superficial knowledge of this branch of medicine, is indeed better than none, in so far as it might at least warn the careless practitioner of the uselessness and dangers of incompetent meddling. To obtain this modest degree of erudition we have plenty of works, already, and the one before us does not even claim to be a treatise. It gives nothing original, nor does it throw a new light on things well known. At an easy pace it skips through the most trying chapters, without solving difficulties or offering substantial aid to the student. In his preface the author states: "Many of the more recondite aspects of disease are purposely omitted. The book is intended as a practical guide * * * * for medical students and country practitioners." How plainly the author intimates that his profound knowledge of gynecology would be beyond the mental abilities of the poor country practitioner! The mere superficialities of our Boston doctor are quite sufficient for guiding the country doctor! Perhaps we do not keep strictly within the limits of a review, but we wish to vindicate the country practitioner, in a few words. He has derived his knowledge from the same sources with the city doctor, and being cast in a position where every day some special responsibility devolves upon him without the advantage of trained help or easy access to professional consultation, he develops in a few years more shrewdness and self-reliance, and readiness of adaptation to circumstances than the city doctor. In urgent and difficult cases, where the city doctor relies on the help of counsel or follows example, the country doctor derives his help only from closer study of books (of a more substantial character than the one before us) or relies on his experience, judgment and presence of mind, and this necessity of self-reliance creates a keenness of thought, a quickness of perception, and promptness in action that might, perhaps, satisfy even Dr. Brown.

The preface also states: "It may not be superfluous to point out that the author has endeavored, as far as possible, to group the different topics under a fourfold arrangement. Thus the allied diseases, their varieties, symptoms, and remedies, are generally arranged in groups of four, or some multiple of two. This with a view to aid memory."

We confess our utter inability to find any such arrangement either in the context, the table of contents, or in any other shape. And we would ask: Of what use a systematic nosological arrangement, based on an arbitrary grouping together in multiples of two, would be in a work that is not a treatise but claims to be a practical clinical guide? The preface in general is a disconnected statement of some of the author's ideas, made at random, and without special reference to the contents of the work.

The book is, however, not without its merit. It is written in a very easy readable style. and whatever may be said of its deficiencies or omissions its readers will readily grant that whatever is to be found in it is derived from good modern sources and presented in a clear and appropriate manner. The printing is good, and the publishers have done their best in the selection of paper, type, etc. A very commendable feature is that the instruments spoken of are represented in excellent wood cuts. This will be appreciated by most of its readers.

D'A.

AN INDEX OF SURGERY. Being a concise classification of the main facts and theories of surgery, for the use of senior students and others, by C. B. Keetley, F. R. C. S., senior assistant surgeon to the West London Hospital; surgeon to the surgical aid society. New York. William Wood & Company, 1882.

This book embraces, in a concise shape, everything of importance in surgical matters, being arranged somewhat like a cyclopedia, namely, treating of the various subjects in their alphabetical order, without reference to anatomical classification. This arrangement makes it very handy for immediate reference. It differs from most minor works on surgery in avoiding theories and explanations—it does not intend to *teach*, but to recall what has been learned previously. This plan enables the author to do full justice to his subject, within the limits of three hundred and sixteen pages, octavo. A paragraph, taken at random, will best show the practical value of the book:

"*Parotid tumors.*—Divided, for practical purposes, into (1) innocent, (2) malignant. Former commence near lobe of ear as small, hard swellings, perhaps originally enlargements of a lymphatic gland. They are fibrocartilaginous. Increasing they tend to grow outward as a square mass, and inward so as to displace part or whole of the parotid. But cancerous tumors are more diffuse, more fixed, more painful, increase faster, and tend to infect the lymphatics of the neck.

Treatment.—A movable tumor corresponding to the first description above given should be excised; a malignant tumor is fixed, and can rarely be advantageously meddled with. In excising a parotid tumor, cut as much as possible in the direction of the fibres of the facial nerve, and keep the edge of the knife towards the tumor. Simple tumors can sometimes to a great extent be shelled out. Facial paralysis, which sometimes follows these operations, is usually incurable. Remember the size of the vessels embedded in the parotid. Remember also the position of Steno's duct, a wound of which may cause salivary fistula." D'A.

A TREATISE ON THE SCIENCE AND PRACTICE OF MEDICINE OR THE PATHOLOGY AND THERAPEUTICS OF INTERNAL DISEASES. By Alonzo B. Palmer, M. D., LL. D., Professor of Pathology and Practic of Medicine in the University of Michigan; Physician to the State University Hospital; Formerly Professor of Materia Medica and Practice of Medicine in the Berkshire Medical College, and Professor of Pathology and Practice of Medicine at Bowdoin College. Honorary member of the New York State Medical Society. Ex-vice-President of the American Medical Association, etc. Volume I, Published by G. P. Putnam's Sons, New York, 1882. Price, $5.00.

As the author of this book is one of the editors of THE PHYSICIAN AND SURGEON, we copy the following review from *The Medical Gazette:*

Much has been said of late years regarding the lack of thoroughly good works in medicine and surgery by American authors. It has been justly claimed that the English treatises on which we have chiefly relied are based on an experience which differs in many important respects from that of American physicians and surgeons. That the manifestations of disease, and, therefore, its treatment and description are largely modified by differences in climate, national habits, etc.

There is no question but that American physicians and surgeons have, with a few exceptions, failed to record their views, though it is well known that their opinions have been formed from experiences which have been, to say the least, quite as rich, if not as fruitful, as those of their European brethren, and which, if gathered and sifted, would unquestionably furnish the best guide for the American practitioner to the cure of disease as it exists in America.

Without, however, further remarking what seems to us a self-evident truth, we wish to call attention to the fact that efforts are being made by American authors to give to the profession the fruit of their observations as colored by local, or rather, national peculiarities.

The book before us will we believe, rank as a most successful effort in this direction.

The author, believing that the time for a strictly scientific classification of diseases has not arrived, has made no attempt at such a classification, but has been guided by convenience in the arrangement of subjects. Certain physiological and pathological facts and principles have been first presented; elementary morbid changes are next described, an account of particular general diseases follows. Local diseases are then treated of, beginning with those of the digestive organs. The accounts of the diseases of other systems of organs follow, closing with the complex affections of the nervous system. An account of human parasites, and a description of the internal diseases they produce, is added. The book aims to give a general view of the present state of scientific and practical medicine. The author states, that not having himself been devoted to original work in morbid anatomy, the description of anatomical and histological changes partakes of the character of a compilation from the more recent and reliable sources; while the therapeutical views are more of a personal character, although the opinions and authority of others have not been ignored. The aim has been to present what was essential to the proper understanding of each subject, without entering into historical details, or dwelling upon doubtful facts, or upon theories not established. In short, a *practical* work has been attempted for students and physicians, which should avoid the extremes of superficial brevity and elaborate profuseness.

The style which the author has adopted is in the highest degree pleasing and yet without ornament. It is a simple narrative style which on account of its clearness and freedom from any attempt at rhetorical display, charms and impresses. The student who is seeking elementary knowledge of disease will find it here. The practitioner who must apply the knowledge to the case in hand, and who must have a faithful account of types of disease, as well as of the special course a disease takes when modified by individual constitution and circumstances, will not turn to these pages in vain.

The plan has been chosen of indicating, as far as possible, the formulæ, the combination of remedies which, in the experience of the author, has proved most beneficial in a given case, and this plan, though of course open to some objections, in the main serves a good purpose, in very materially facilitating the labor of the practitioner.

In no work on the practice of medicine have we met with such explicit directions regarding the proper method of studying disease, on the acquirement of which depends, to so large an extent, success in diagnosis and hence in treatment.

Under the head of definitions and observations of disease, physiological observations, pathological observations, etc., the author has presented most excellent introductory chapters, which cannot fail to convey to the student the nature of the land he is to explore, and aid him in directing his efforts rightly in mapping out the paths by which he is to attain theoretical and practical proficiency in medicine, as well as those paths which are to be avoided as leading only to the labyrinth of theoretical speculation, barren of practical result. We have seen no book on the practice of Medicine better adapted as a text-book to the wants of the American student than this, and we apprehend that it will receive recognition by American colleges as the text-book on practice *par excellence.*

Critical examination will disclose few imperfections, for a work of this magnitude. It may be said that the author has been too prone to regard his dicta as incontrovertible facts, but he has, for the most part, given his reason for the conclusions arrived at, and his opinions are expressed with the positiveness of conviction.

In etiology, it may be said in general terms, that the germ theory has been accepted. Thus diphtheria is defined to be "an acute specific infectious and contagious disease prevailing epidemically, a general disease affecting the whole organism, but with peculiar local symptoms produced by a specific inflammation depending upon a specific poison." Typhoid fever is defined to be a specific fever produced by a peculiar poison usually found in connection with putrefying organic substances, particularly fecal matters in privies and sewers, the poison being conveyed to the system by water and other ingesta, and through the air.

The book, while recognizing pathology as the foundation of scientific medicine, and symptomatology and diagnosis as essential guides in the care and management of the sick, regards the practical cure of patients as the crowning object of all medical study, and accordingly this end has been kept constantly in view, and the result has been to make the book an invaluable one for every day reference for practical suggestions in regard to treatment.

It is of course impossible, by a mere mention of some of the more conspicuous merits of the book, and by giving a skeleton of its arrangement, to present to our readers the manifold minor excellences which will commend it on closer inspection We can only say that because it is an American work, and treats of American diseases in what might be called an essentially practical American way, it deserves, and doubtless will command, an extensive welcome by the profession of this country.

It is tastefully bound, and in every respect well gotten up by the publishers.

SELECTED ABSTRACTS.

TREATMENT OF ENLARGED PROSTATIC OBSTRUCTION.

Reginald Harrison (*Medical Times and Gazette*) gives some original views on this subject, and as the subject is an important one we here reproduce the article:

It may be generally stated that of males who have passed fifty-five years of age, about one-third have enlargement sooner or later of the prostate; of these, about one-half suffer in some degree, whilst the remainder escape without experiencing any inconvenience therefrom.

These figures therefore furnish us with two classes of elderly persons—namely, those who have large prostates and suffer from them, and those who have them but do not.

I take it that so long as micturition continues to be efficiently and painlessly performed, no one is at all likely to complain of his prostate, though it may be evident on examination that it has exceeded its normal dimensions. At least, such instances are very exceptional. It is exceedingly interesting to analyze the class of cases where, though the prostate is enlarged, it does not obstruct. I have examined a considerable number of them, and find that there are at least two conditions which explain how it is that micturition is not interfered with.

The first is where the hypertrophy is mainly in the direction of the rectum, in which case the relations of the prostatic urethra are not altered.

The second is where the prostate as it grows leaves channels between the masses of hypertrophy, along which urine uninterruptedly finds its way. This lobulated form of hypertrophy is by no means uncommon.

A careful consideration of these conditions led me to the belief that to a useful extent they were capable of imitation by artificial means; that, in fact, though we might be unable to prevent this change taking place as old age advanced, we could so direct and influence the growth as to cause micturition to be as little interfered with as in the natural conditions—probably accidental—to which reference has been made.

In a considerable number of cases of prostatic obstruction the impediment to micturition is a gradually increasing one: It commences with slight interference, and terminates sooner or later in the development of a complete obstacle, not only to micturition, but to the passage of a catheter into the bladder. In other instances the latter emergency is a sudden one, and is probably tracable to some accidental circumstance interfering with the propulsive power of the bladder, which has long been carried on with difficulty. In these respects the prostate has its analogies with the remaining portion of the urethra when it becomes the seat of stricture.

It is remarkable how slight an elevation, provided it be central, in what is usually called the third lobe is sufficient to effectually obstruct, thus indicating that the impediment to micturition is just as mechanical in its nature as that in other forms of organized structure. If the obstacle to micturition is a mechanical one it seems only reasonable to conclude that it is capable of being dealt with by corresponding means.

The teaching of the present day is, however, to the effect that mechanical treatment is not to be employed until either retention occurs, or the bladder becomes inflamed; then catheters may be passed, and the bladder subjected to a variety of mechanical expedients. But why, I would ask, should we not apply the same principle of treatment to commencing obstruction as we do on the appearance of urethral stricture?

The answer generally advanced is, that it will produce irritation. But is there any evidence that the prostate is so susceptible to mechanical interference when it is properly applied? On the contrary, I believe there is none. If there is one organ in the body more long-suffering than another, I am sure it is the prostate gland. We cut it in lithotomy, we remove portions of it with our fingers or the forceps when it gets in our way, we enucleate tumors from it, it gets many a hard blow from an ill-directed catheter, it is a frequent neighbor of about the most virulent discharge the human body is capable of producing,—and yet how many specimens illustrating inflammation of it, or its effects, can the museums of this vast metropolis furnish? I submit there is no evidence to prove that the prostate is ever hurt by the employment of well-directed mechanism; on the contrary, I believe, and I have found, that it will yield to its influence far more readily, as a rule, and show more tolerance of it, than the majority of urethral structures. We might just as well say, because we occasionally find strictures exceedingly irritable, that their treatment was to be postponed until either retention of urine or cystitis were provoked.

But even if the prostate were intolerant, it seems to me in the class of cases to which I am referring, where there is some degree of interference with micturition, it is only postponing the evil day until the necessity is greater and the difficulty more apparent. If there is danger of irritating the prostate, it is none the less because its size is larger. Having regard to those two pathological conditions of the enlarged gland to which I have referred, where micturition is only slightly or accidentally interfered with, if at all, I have been for some time employing dilatation by specially adapted bougies with the objects of either preserving the relations and dimensions of the prostatic urethra by allowing it to grow in directions where it is not thus interfered with, or of causing channels to be formed in the hypertrophic growth through which urine under all circumstances may find its way.

The bougies I have had made for this purpose are gum-elastic, with an expanded portion an inch from the tip. They are from two to four inches longer in the stem than ordinary instruments, in order that the expanded portion may fully enter the bladder. In this way the prostatic urethra is subjected to gradual pressure both at the time of insertion and withdrawal of the instrument. The bougies are made in various sizes, so that different degrees of dilatation can be effected. At first the instruments may be passed once in forty-eight hours, then twice or daily, and in some instances I have caused them to be used morning and night with good results. In the great majority of cases in which these instruments are employed, if a suitable size be selected to commence with, and larger ones are not proceeded with too rapidly, I find no irritation is aroused. On the contrary, greater toleration of urine follows their employment, owing to the ease and completeness with which the bladder is emptied. In a few persons it is necessary to establish what has been spoken of as a state of instrumental toleration. The frequency of doing this depends, as a rule, more on the manipulator than on the instrument, though the election of the latter is a matter of importance.

In establishing tolerance to catheters in patients who present symptoms which give little hopes of their postponing very long the necessity for such means, regard must be had to circumstances other than those included in the selection of instruments and their skilful employment.

Cases are sometimes met with, where persons have an apparently unnatural degree of intoleration to instrumental interference with the urethra, even of the gentlest kind. Many of these would be largely benefitted by such treatment, but they are debarred from the advantage thereof by what almost amounts to an idiosyncrasy. I have carefully analysed several of these cases, and, though the statement may appear in a sense paradoxical, I have found persons passing urine which in its composition seemed to me to be fully as irritating as any instrument could well be to the urethra. I have been able to trace this extreme sensitiveness of the urethra to the presence of uric acid crystals in unnatural quantities and form in the urine; and by preliminary treatment, having for its object the correction of the urine, I have had the satisfaction of making patients, previously intolerant, capable of undergoing with the fullest advantage the necessary treatment.

In advocating the early treatment of prostatic obstruction by the means to which I have referred, I have already had sufficient proof of its efficacy. I have demonstrated that the regular use of the bougie is capable of so moulding the hypertrophic growth as to prevent obstruction occurring. I have observed, and am observing, cases where frequent and painful micturition, in addition to other symptoms, has indicated that an impediment is commencing to form. I have seen such patients, by the use of these instruments, regain the power which apparently they were thus beginning to lose.

If the treatment is commenced sufficiently early, though the prostate may be hypertrophied, obstruction to micturition is effectually prevented. When the prostate has already become enlarged, and there is also difficulty in micturating, this treatment will be found equally efficacious. In either case, it is necessary to continue it long after all indications of obstruction have ceased. When, however, the patient has acquired the habit of self-catheterism he is loth to forego it, as any slight inconvenience the operation may occasion is not to be put against the obstruction to micturition that usually terminates all cases where an enlarged prostate is left untreated when mechanical interference becomes a necessity.

It is not my intention here to discuss the more strictly operative measures which have for their object the section of that which obstructs. These proposals, advocated and practiced by Mercier, have recently received some support from Teevan in this country, and Gouley in New York. I have an instrument, which was given to me by my last-mentioned friend when I was in America a year ago, for the performance of this operation.

Prevention is better than cure, and though not rejecting Mercier's practice as an unjustifiable proceeding, I do not think, in its present form, it is likely to occupy a very prominent position. If, for instance, I wanted to incise an obstructing prostate, I would sooner do it with my knife, as in lithotomy, and so do it certainly and precisely, rather than with a concealed bistoury, and run the risk of a hemorrhage which I had no sure means of controlling.

In venturing to bring forward my views on the treatment of enlarged prostate, so far as it relates to obstructing micturition, it is with the feeling that surgery has done but little in preventing the progressive development of a condition which is often followed by very distressing and sometimes embarrassing results—results which we know of, and stand by to palliate, though we have hitherto been helpless in preventing them.

TREATMENT OF ACUTE BRONCHITIS.

Dr. Park (*Practitioner*) gives the following method:

As soon as the patient comes under treatment, the chest, in whole or in part, is to be rubbed with two or three drachms of lin. crotonis. If the patient is seen at the very earliest stage, when there is only a slight roughness and pain behind the sternum, then it will be enough to have it rubbed into the episternal hollow, along the clavicles, and down the front of the sternum as far as the ensiform cartilage. Otherwise the whole front of the chest, the sides thereof under the armpits, and the back between the shoulders, should be rubbed. The best manner of application is by means of a tag of cotton-wool saturated with the liniment and rubbed till it is dried up. Care should be taken, and the patient warned, not to let the liniment *run* down the loins and abdomen, which it is apt to do. Also the applying hand should be carefully washed *immediately* afterwards. The application *at once* relieves the patient, and this relief is maintained and increased by having the surface rubbed covered over with a thin layer of absorbent cotton-wool, propperly retained to prevent shifting. For this purpose an old chamois leather vest answers well.

From repeated personal experience I know that the liniment applied in this way does not produce pain. Sometimes, after twenty-four hours or so, there is a feeling of tenderness or soreness: but, if the cotton-wool be not disturbed, and violent rubbing be not resorted to by the patient, this soreness is evanescent, and succeeded by an itching—sometimes very considerable—which remains for three or four days. It may be relieved by smearing the eruption over with fresh butter, lard or vaseline *under the cotton-wool*, care being taken not to disturb the cotton where it has become adherent with discharge.

It is this persistence and continuity of effect which makes the application of such signal value, more especially for children and infants. So long as the irritation lasts, so long does the derivative action continue. But it has another great advantage, namely, that it enables the patient to go about his business. There is an impression abroad that it is dangerous for a patient to expose himself out of doors with an eruption such as that of lin. crotonis out upon him. Such an impression is quite erroneous. Of course, I am writing in general terms. Social position, idiosyncrasy, complications, and direction of prevalent wind have all to be taken into account and allowed for. There is another prejudice against applying it to infants. I can only say that I have had it applied to scores of infants under twelve months, and have never once regretted the practice. On the other hand, I can remember many a time regretting having ordered a poultice under similar circumstances. Only last week I was called to see an infant of seven weeks, which was suffering from orthopnœa of a spasmodic kind. with retraction of abdomen during inspiration, and slight retraction of intercostal spaces. The infant, in common with some other members of the family, had caught cold with sore throat about thirty-six hours before, but nothing much was thought about it at the time. The infant had passed a restless night, and in the early morning a hot poultice was put upon its breast, with the result of soothing it for a little; but during the hour prior to my visit it had become rapidly worse. The diagnosis lay between croup and acute bronchitis. Believing the latter to be right, I had the whole thoracic parietes rubbed at once with the liniment, and prescribed a diaphoretic expectorant and sedative mixture, with the effect of placing the child out of all danger in less than four hours, and preventing the long chronic bronchial catarrh which is the usual relic of acute bronchitis when treated by poulticing, emetics, and nauseants, when the patient lives. As I write now, however, on the eight day of the attack (October 20, 1881), there still remain numerous wheezy rales, and some inspiratory difficulty, attended at times by very severe cough. In all other respects the infant is well. For the relief of the cough I have prescribed this mixture, which has answered well:

℞.	Acidi hydrobromici	80♏.
	Vini ipecac	100♏.
	Tincture belladonnæ	40♏.
	Acidi hydrocyan. dil	4♏.
	Sy. scillæ	ʒjss.
	Glycerini, q. s. ad	℥ii.

Ft. Mist. Cujus cap. coch. min. j. 2 dis. horis.

When a poultice is applied to the chest in the early stage of bronchitis, the inflammation rapidly spreads into the minute bronchioli; when applied in the later stages it weakens the patient needlessly, and increases catarrhal exudations into bronchioli and air-cells, frequently eventuating in œdema of lung tissue; and, if there should happen to be a scrofulous or tuberculous tendency, laying the foundation for a more or less acute phthisis. I am convinced that I have seen more than one life sacrificed to this treatment, and I recall one instance of a very dear friend, whose life, by professional etiquette, was barely rescued from sacrifice to it.

[The liniment spoken of in the above article is that of the British Pharmacopœia, and this should be indicated in the prescription.—EDITOR OF THE PHYSICIAN AND SURGEON].

PHYSIOLOGICAL ACTION OF KAVA.

Mr. Kesteven, colonial medical officer at Levuka, Fiji, contributes (*Practioner*) the following on this interesting drug:

The general belief that kava has stupefactive, or intoxicating properties, is incorrect. Its primary effect is stimulating, like coffee, but it certainly has no intoxicating effect whatever; indeed I should say that its effects are the reverse, clearing the head and sharpening the mental faculties. It is re-invigorating, and I know of no draught more refreshing in fatigue from bodily exertion. It exerts a powerful action upon the salivary glands, speedily and effectively allaying the thirst incident to hot climates.

A night's carouse, however, from kava, as frequently indulged in by the native, impairs the function of locomotion, and you have the curious spectacle of a man utterly drunk in his walk, while his intellect is unclouded—he is unable to control the movements of his legs, but is perfectly aware of his disability. When the effects have passed off, there remain no after consequences, for example, "hot coppers"; "sore heads" are unknown as a result of kava drinking. Deducing from these facts a direct action upon the spinal cord, I have used, with decidedly beneficial effect, a concentrated extract of this root, in several cases where I suspected congestion of that portion of the nervous centers.

The bodily temperature is not increased by the action of kava, it has only slight influence over the pulse, which, however, it somewhat steadies. Its action upon the intestines is constipating. I have thought that I have seen "liver complaints" induced by habitual kava drinking, but my experience under this head is incomplete. Old and inveterate kava drinkers have a belief that the eyesight is injuriously affected by a continued indulgence in its use, but I have not had sufficiently long observation for confirmation, and have, as yet, seen no evidence thereof.

PROLONGED GESTATION.

In the May number of the *New York Medical Journal and Obstetrical Review*, Dr. L. A. Rodenstein, of New York reports four cases of prolonged gestation, and remarks that the number of cases cited upon undoubted authority by every writer on obstetrics, and the cases constantly reported as occurring under the personal observation of general practitioners, go to show that prolonged gestation is not a myth, and especially that it should not be explained away by questioning the virtue of the mother. How long the duration of the period of gestation can extend beyond the normal time is not yet determined, perhaps cannot be detrmined, but that it may extend over two months is apparently settled. The same principle is involved, whether the uterus tolerates the presence of the child three days or one hundred and forty-five days (Professor Meig's Report) after the natural term of gestation has expired. He believes that, after the uterus has performed its physiological function of gestation for the natural term, it rests from the work of gestation proper. Why does it not, then, exercise the function of expulsion? That question he does not attempt to answer, but believes that after gestation has performed its proper and peculiar work the growth of the child is complete, and it thereafter lies dormant in the womb. Otherwise the child would grow to huge size, and its delivery in the natural way would be impossible; whereas in the cases cited the size of the child at the expiration of the period of prolonged gestation was normal.

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ORIGINAL ARTICLES.

CHRONIC CATARRHAL NEPHRITIS.

BY VICTOR C. VAUGHAN, M. D.,

Assistant Professor of Physiological Chemistry in the University of Michigan.

Synonyms.—Chronic parenchymatous nephritis; chronic tubal nephritis; chronic diffuse nephritis; large white kidney.

I do not propose to write an exhaustive paper upon this subject at present; but I hope to call attention to a few points on which I shall take somewhat different views from those generally given in our books.

In doing this, however, it will be best to discuss the disease somewhat systematically.

Etiology.—Undoubtedly in the majority of instances chronic catarrhal nephritis results from the acute form of the affection—either from repeated attacks or from a neglected acute case passing on into the chronic form. Therefore, as scarlet fever, diphtheria, pregnancy and exposure to cold and moisture are the most prolific sources of the acute form, they must be regarded as the primary causes in the majority of instances of the chronic disease. However, many cases of chronic nephritis are met with in which no history of an acute attack can be traced. Although it is impossible to prove conclusively such to be the case, I agree with Busey* in believing that long exposure to malaria is a cause of chronic Bright's disease. I notice that many of my patients, in whom no other satisfactory cause for the trouble can be found, come from malarial districts and have suffered repeatedly from intermittent fever. Then again persons with malaria are likely to be troubled with oxaluria and it may be that the irritation of the sharp-pointed crystals of oxalate of lime tends to produce the trouble. These crystals were found by Crosse and Meckel firmly imbedded in the tissue of the kidney, showing most conclusively that they may work their way through tissue as other minute foreign bodies do. Then again it may be that the malarial poison, like that of scarlet fever or diphtheria, is able to cause inflammatory action in the uriniferous tubules. Alcohol is frequently held accountable for this form of Bright's disease. It is difficult to conceive, however, how this poison, as ordinarily taken, could reach the kidney in a form sufficiently concentrated to act as an irritant. It is true that confirmed inebriates are especially prone to this affection; but this is probably explained by the frequent exposure of such persons to cold. Alcohol, especially when taken during fasting, speedily affects the liver, but it reaches this organ before it has been so largely diluted by the blood. It may be that alcohol, by producing a condition of suboxidation as evidenced by the presence of oxalate of lime and an excess of uric acid in the blood, is an indirect cause of chronic catarrhal nephritis; but even this condition would more likely lead to an interstitial rather than tubal form of Bright's disease.

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*Transactions American Medical Association, 1880.

Mercury is given by some as a common cause of this disease, but this is denied by Bartels and others.

Pathological Anatomy.—There are in the history of the disease two distinct stages—that of enlargement and that of contraction. But even the process of enlargement is, I take it, a secondary change. It is interesting in this connection to study the points of resemblance between this form of Bright's disease and certain nasal catarrhs. In the kidney the inflammation begins in the mucous membrane. The pelvis is the seat of a catarrh and the uriniferous tubules are filled with epithelial debris and an excess of mucus. This mucus is also abnormal in character and is highly irritating. This constant irritation affects markedly the deeper tissue—just what happens in the production of hypertrophic nasal catarrh. In chronic catarrhal nephritis the interstitial tissue is increased in growth or there is true hyperplasia. This causes the enlargement of the organ. Subsequently the increased connective tissue begins to contract and this leads to what is generally called the second stage of the disease—that of contraction. The same happens in chronic nasal catarrh and results in the atrophic form of the disease. *Chronic catarrhal nephritis is, then, an inflammatory affection of the mucous membrane in the kidney, which has existed for a sufficient length of time to cause proliferation of the subjacent interstitial tissue.*

Symptoms.—First there is more or less marked anæmia. In many cases this is sufficient to give to the patient a peculiar, pale, waxy appearance which is often immediately recognized by the practiced eye. The anæmia is caused by the drain upon the system from the constant loss of albumen and also by disturbances of digestion and assimilation. The amount of albumen lost with the urine is often quite large. Bartels found that it was in one of his cases as much as 17.36 grams per day. There is frequently nausea at the sight or smell of food, and the possibility of this condition arising should always be borne in mind by the physician in ordering the diet. The anæmia results in part also from the transfusion of serum into serous sacs, producing dropsical accumulations. As a result of the impoverished condition of the system, there is often marked debility. The slightest exertion causes great fatigue.

Dropsy is a symptom that is very variable in its appearance. It may be quite general or it may be localized. In one of my cases the dropsy is confined to the upper eye-lids. In the morning these hang like rubber bags of water down over the eye-balls. In another case there is only puffiness under the eyes in the morning and slight œdema of the ankles at night. In one case the dropsical accumulation was confined to the abdomen, and the gentleman consulted me for the shortness of breath resulting from the pressure of this fluid against the diaphragm. In some cases the dropsy extends to the trunk and all the extremities. The skin may rupture spontaneously, and the fluid poured out is irritating and produces excoriations upon the adjoining surface.

During the stage of enlargement, the amount of urine is generally less than normal. The specific gravity is as a rule low, but it varies indirectly with the amount and therefore may be any where from 1010 to 1040, usually about 1015. The fact that the specific gravity is generally low even when the amount of urine is less than normal shows that the solid constituents, especially urea, are decreased in amount. The amount of albumen is, as has been stated, frequently very large; though it is variable, from one-half to four or five per cent. Most specimens of such urine deposit, on standing, a dirty-white mass, which contains much mucus, casts, granular or fatty, or both, and epithelial debris. The granular casts are often quite numerous. There may be in the deposit various crystalline bodies, as uric acid, oxalates or phosphates.

As the stage of contraction comes on, the amount of urine is increased and the specific gravity is correspondingly lowered. The urine closely resembles that of interstitial nephritis. The dropsy may wholly disappear, and the left ventricle of the heart becomes hypertrophied.

Prognosis.—It is generally considered that this form of Bright's disease proves rapidly fatal. This is by no means necessarily the case. The prognosis to be given in any special case will depend, of course, upon the particular conditions.

General dropsy, great anæmia and debility and disturbances of digestion indicate a very grave condition. The amount of albumen must also be taken into consideration. If the disease be recognized before there is marked anæmia and debility and while the dropsy is yet localized, the disease need not materially shorten life, and indeed may be permanently cured. The condition should in most cases be plainly stated to the patient, and he should be informed that any little imprudence in the way of exposure may lead to speedy death.

Treatment.—This must be hygienic, dietetic and medicinal. In regard to hygienic measures, it is necessary that the patient should be properly clothed. In this latitude, flannels should be worn all the year through—heavy ones in the winter and lighter in the summer. Especial attention should be given to the covering of the feet. Damp feet may lead to a cold which might cause death in a few hours. The body should be bathed in tepid or warm water three times per week, and the skin should be thoroughly rubbed with a brush or coarse towel. By this means the excretory activity of the skin is maintained and the kidneys are thus relieved of a certain amount of work. The sleeping apartments should be warm but well ventilated. All work requiring frequent exposure should be avoided. If the patient be a resident of a marshy, malarial district, it would be necessary to change his residence.

Strict attention must be given to diet. The rule should be to have as little nitrogenous food as is consistent with the needs of the body. The milk diet has proven itself very valuable in the treatment of this form of Bright's disease. The milk should not be skimmed. If milk only is taken, from three to four quarts per day will suffice for an adult. Some persons are much benefitted by discontinuing tea and coffee. These probably act as irritants to the inflamed membranes. Four years ago I saw a man, aged twenty, who had marked dropsy of the ankles and whose urine contained as much as one per cent. of albumen and numerous dark granular casts. The trouble probably dated back to a scarlet fever eight years before. Under the milk diet the dropsy disappeared and only a trace of albumen can now be detected. Some mild diuretic mineral waters, as the Bethesda water of Waukesha, Wisconsin, may be used with great benefit.

Medical treatment must not be neglected. For the anæmia, iron in some form is constantly demanded. I know of no better preparation than the old, well-tried tincture of the perchloride. Arsenic, strychnia, hypophosphites and other tonics may be selected to suit special needs. However well the patient may feel the treatment should not be neglected. The bowels must not be allowed to become constipated.

Exacerbations as indicated by increased dropsical accumulations or constant nausea and vomiting with great debility must be treated in the same way that the acute form of the disease is managed. Diaphoretics, cathartics, rest in bed, warm and hot air baths must be resorted to in order to remove the accumulating urea.

In conclusion let me urge that chronic catarrhal nephritis should not be regarded as a disease necessarily proving fatal in a short time. It is amenable to treatment and while absolute cures are very rare, the life of the patient may be indefinitely prolonged. Even in cases which appear desperate, the physician should not despair. Use great care in removing the dropsical accumulations with elaterium. Begin with small doses—one-sixteenth of a grain. It may be necessary however to use a much larger dose when uræmia is threatening. In such cases the hypodermic use of pilocarpin, in doses of from one-sixth to one-third of a grain, is more speedy and efficient in action than the fluid extract of jaborandi given by the mouth.

Often in these chronic cases the patient will state that he never felt better in his life and is apt to neglect the directions of the physician. In this lies the greatest danger.

A FEW NOSTRUMS.

BY ALBERT B. PRESCOTT, M. D.,
Professor of Organic and Applied Chemistry and Pharmacy in University of Michigan.

(1) "COMPOUND OXYGEN. *Keep Dark.*"—A colorless, aqueous solution of nitrate of ammonium and nitrate of lead, the two salts being in nearly equal proportions, and together forming about three per cent. of the solution.

(2) "OXYGEN AQUÆ. *For Digestion. Keep Cool.*"—One of the grades of "compound oxygen": A colorless, odorless, and tasteless liquid,—found to be water, of a commendable degree of purity, quite free from sophistications. Probably this is the original compound oxygen.

(3) "COMPOUND OXYGEN." *Dr. Green's.* 1880.—An aqueous solution of nitrate of ammonium, with a very little nitrate of lead.

(4) "COMPOUND OXYGEN." *A White Crystalline Solid.*—Obtained for analysis about five years ago, and then found to be nitrate of ammonium alone. "Contains all the vitalizing elements of the atmosphere, but combined in a different way."

(5) "COMPOUND OXYGEN."—Sent out from Boston. A colored, fragrant liquid, consisting of alcohol, chloroform, and balsam of tolu.

(6) "COMPOUND OXYGEN." *Dr. O'Leary.*—Contains alcohol, chloroform, bitter almond oil, balsam of tolu, and red coloring matter.

Numbers 1, 2, 5, and 6, came to hand by the kindness of Dr.

J. H. Kellogg, of Battle Creek, member of the State Board of Health. Number 3 was handed me by Dr. Dunster.

(7) CURE FOR EPILEPSY.—A very turbid liquid, strongly bitter and somewhat colored. Bromide of potassium, two troy ounces; yellow cinchona bark, in fine powder, one troy ounce; water to make eight fluid ounces.

(8) "INFALLIBLE REMEDY FOR EPILEPSY. *Warranted.*"—A red liquid, with an alkaline and saline taste, and an odor of cinnamon and anise. Consists essentially of bromide of ammonium. A fluid ounce contains 120 grains of bromide of ammonium, with aniline red, cinnamon and anise oils, sugar, glycerine and alcohol. The article bears the name of Dr. H. G. Root, and is priced at four dollars for a two-ounce bottle.

(9) CURE FOR EPILEPSY.—A concentrated solution of bromide of ammonium, and iodide of ammonium, with a little red coloring matter, and flavor of oils of peppermint and rose.

(10) CURE FOR THE OPIUM HABIT.—A limpid liquid, colored red with aniline, and containing nothing of any physiological effect.

EDITORIAL BRIEFS.

AT a recent meeting of the alumni of Jefferson Medical College, Dr. James F. Noyes, of Detroit, was appointed vice-president for Michigan.

WALSH'S RETROSPECT is one of the best of our exchanges. It is a quarterly and contains selections from Americn medical journals. The editor manages to get the cream of medical literature and the journal is cheap at the price—2.50 per annum.

THE annual meeting of the alumni of the department of medicine and surgery of the University of Michigan, will be held Wednesday, June 28, in the lower lecture room of the medical building. An address will be given by Dr. C. H. Lewis, of Jackson, president of the association.

IN the account, in our last issue, of the meeting of the Michigan State Medical Society, the writer failed to mention the very admirable paper, by Dr. E. P. Christian, of Wyandotte, on some "Malpresentations." We shall give the paper either in full or in abstract as soon as the transactions appear.

SANITARY CONDITION OF MEMPHIS.—Col. Waring, in an excellent paper in the *American Architect*, March 25, points out the fact that many of the sanitary improvements recommended in Memphis, have been either imperfectly carried out or wholly neglected. The water supply is from Wolf river and is very impure. Col. Waring thinks that Memphis will not escape should another epidemic of yellow fever appear in the Mississippi Valley.

American Medical College Association.—This association held its sixth annual meeting at Cincinnati, May 16. Two years ago it was announced with great flourish that this association would do great things for the advancement of medical education. It would require of the colleges three terms of nine months each. The medical department of the University of Michigan, adopted this plan and is following it honestly. The University of Michigan and Harvard are the only medical schools in the country which have adopted the three courses of nine months each. The American Medical College Association had not a word of encouragement for these school at its late session; but the association cowardly backs down from the position which it had taken. The following amendment to the articles of confederation was adopted: "Two sessions of five months shall he regarded as equivalent to three courses, and colleges adopting this curriculum shall be admissable to membership in this association."

Professor Landis, of Starling Medical College, offered the following amendments to the articles of confederation:

Article II, Sec. 3: For "three courses" read "two courses."

Article III, Sec. 3: Third line, for "three regular sessions" read "two full courses;" sixth line, for "three full courses" read "two full courses."

Sec. 4: For "three yearly collegiate sessions" read "two yearly regular collegiate sessions."

Said amendments to take place at and after the sessions of 1884-84.

On motion of Professor Prewitt, of Missouri Medical College, the following preamble and resolution was adopted:

"Whereas, It has become apparent to this association that its action in establishing a three years' course of college study is in advance of the views of the medical profession at large, that it is not supported in this movement by the profession, and especially by the older eastern schools, whose status should have made them leaders in a reform movement of this character; therefore, be it

Resolved, That the law upon this subject be not enforced during the year required for its amendment."

In other words the association hastens to retract everything in the direction of advance that it has done. It is now certainly no honor for a college to belong to this association. The most audacious diploma-mill in the country could hardly ask for lighter requirements.

The secretary, whom we take to be somewhat of a humorist, closes the report of the meeting as follows:

"The tone of the meeting, which continued during the entire day without intermission, and the spirit of the members present, indicated that the association has entered upon a more hopeful future. Each member seemed impressed that the benefits to be derived from the intimate and friendly association of medical colleges was as great as is obtained from the organization of other institutions having common aims.

"It will be seen that all of the Eastern schools have withdrawn from the association. The relations of this withdrawal to the efforts made by the Western colleges to increase the requirements for graduation, are a matter of history, well remembered by all who have taken an interest in this effort to better the state of medical education.

"It is hoped that the condition of things which has compelled the return of the association to its former requirement may prove but temporary, and that all reputable colleges who recognize the fitness of a yearly friendly conference between the several medical colleges and the advantage of combined efforts by the same, will join the association and help forward its work."

Will some one please inform us what the work of the association is and whether it goes forward or backward.

CORRESPONDENCE.

AMERICAN MEDICAL ASSOCIATION.

SAINT PAUL, June 10, 1882.

MR. EDITOR: According to promise, I will endeavor to give your readers an outline of the work which has been done at this, the thirty-third, annual meeting of the American Medical Association. With the exception of the meeting at New York year before last, this has been the most largely attended of all the meetings. The natural attractions of Minnesota probably had some influence in increasing the attendance, and I fancy that all were interested in the question, "What would the Association do with the delegates from the New York State Medical Society?" In the absence of President Woodward, the chair was filled by vice-president, P. O. Hooper, of Arkansas. Governor Hubbard, of Minnesota, offered a pleasing address of welcome, and Dr. Stone, of Saint Paul, announced the various social entertainments and railroad excursions offered the delegates. Protests against the admission of the delegates from the New York State Medical society were received from numerous individuals and from local and State societies.

The acting president gave an interesting address in which he sketched the history of the association, giving its aims and its connection with medical progress. He favored the establishment of a weekly medical journal to supplant the yearly volume of transactions. He called attention to the great advance made in sanitary matters, and thought that the National Board of Health and many local and State boards were doing a much needed and valuable work. In conclusion he paid a glowing tribute of respect to Professor Hodgen, president last year, and again regretted the absence of Dr. Woodward.

The committee on journalizing the transactions reported in favor of that plan. They recommend the establishment of a weekly journal to be called "The Journal of the American Medical Association." This is to be managed by the association through trustees. The editor is to have a salary of six thousand dollars, from which he is to employ an assistant. The subscription price to non-members is to be six dollars per annum. The trustees will soon issue circulars to all regular physicians and endeavor to ascertain the support that can be secured for the enterprise. The transactions of the present meeting will be published as heretofore, but it is hoped to have the plan for the journal fully matured by the next meeting. The trustees are Drs. R. J. Dunglison, L. A. Sayre, J. M. Toner, Foster Pratt, H. O. Marcy, W. F. Peck, and R. Battey.

The address to the section in medicine was given by one of the editors of THE PHYSICIAN AND SURGEON, Dr. J. A. Octerlony, of Louisville. He thought that if Lord Bacon could now visit us and study the science of medicine, he would have no cause to complain as he did two and a half centuries ago; "Medicine is a science which hath been more professed than labored, and yet more labored than advanced, the labor having been rather in a circle than in progression. For I find much iteration, but small addition." Within the last fifty years there has been so much addition that but little time has been left for iteration. Up to 1827, structural diseases of the kidney were not understood. It was in that year that Richard Bright published his researches which marked an era in medicine, and reared a monument fitly commemorating the genius of this pioneer in renal pathology, Students of diseases of the heart may remember that before 1840, the very name of endocarditis was unknown. Bouillaud first recognized the condition and pointed out the close relationship between rheumatism and diseases of the heart. Few diseases are more striking than goitre yet it was not until 1835, that Dr. Graves first described the affection. The connection between bronzing of the skin and structural changes in supra-renal capsules was first pointed out by Addison in 1855. The history of medicine in the nineteenth century has not been written, but when it shall have been it will form the grandest and noblest chapter in the history of the science. The need of a great central law, as the law of gravitation to astronomy, and of affinity to chemistry, is keenly felt; but in the meantime a grand array of facts is being brought forward. The general skepticism has invaded medicine and there are those who are ready to say with Mephistopheles:

"Der Geist der Medicin ist leicht zu fassen
Man durchstudirt die grosse dan die kleine Welt,
Um es am Ende gehen zu lassen
Wie's Gott gefällt."

However, there can be but few who fail to own the great capabilities of their art. What we are now able to do is largely due to that great host of workers gone before us, and memory loves to dwell over the names of Servetus, Vessalius and Harvey. Among these laborers have towered men of imperial genius who would have succeeded in any department of investigation. Their work still lives.

"Were a star quenched on high
For ages would its light
Still traveling downward from the sky
Shine on our mortal sight.

"So when a good man dies
For years beyond our ken,
The light he leaves behind him lies
Upon the paths of men."

Dr. Octerlony then proceeded in a masterly manner to review the great advance made in our knowledge of inflammation, diseases of the nervous system, lungs, kidney and in leprosy, and diphtheria.

Dr. Octerlony's address was regarded as one of the best ever given before the section.

Dr. H. O. Marcy, chairman of the section on obstetrics and gynæcology read a paper on uterine tumors. The paper was a real contribution to our knowledge on the subject, and was made more interesting and instructive by demonstrations with the solar microscope, lately invented by Dr. MacIntosh, of Chicago.

Dr. Shoemaker, of Philadelphia, read a paper upon "Treatment of syphilis by subcutaneous sublimate injections." He urged this method of using mercury as the one least likely to cause serious disturbances. He gives one-eighth of a grain once per day. In strong subjects, this dose may be cautiously increased. The place selected for the injection is in the infrascapular region generally. A glass syringe with a long needle is used, and in one hundred and thirteen cases thus treated, he had observed neither inflammation nor abscesses.

Dr. Byrd, of Quincy, chairman of the section on surgery gave a paper upon "Resections of the alimentary canal." His conclusions were as follows:

(1) Resections of the small intestine may be done to a considerable extent without interfering in any appreciable degree with digestion.

(2) Practiced under suitable conditions the operation is to be considered perfectly legitimate.

(3) The resection may be performed by bringing the divided ends directly in apposition and closing the abdominal wound, or by forming an artificial anus. The second and third procedure expose to less subsequent danger.

(4) Resections of fibrous and cicatricial structure which are probably more frequent than is generally supposed may cause a radical cure, and the same is the case with epithelioma. On the contrary resections of carcinomatous obstructions gives only temporary relief, and at a greater risk.

(5) By proper diet after the operation the risk of fecal extravasation may be reduced to a minimum, and the best diet for this purpose is one containing as little fluid as possible.

(6) By introducing liquids per anum, and drink in the same way, water is absorbed as by the mouth and there is no sense of thirst; the flow of intestinal fluids is less considerably and the patient is more comfortable.

Dr. A. L. Gihon, of the Navy, and chairman of the section on State medicine, read one of his characteristically forcible papers on the general subject of sanitation. Excellent papers were read on the fourth day by Dr. Busey, chairman of section on diseases of women and children, and Dr. Goodwillie, chairman of Section on Dentistry. Much of the work done in the sections was of value.

The University of Michigan was represented by Professors Dunster, Maclean and Taft. Dr. Dunster read a paper in the gynœcological section on "Ovariotomy during Peritonitis, is it justifiable?"

Dr. Taft read a paper in the dental section and Dr. Maclean joined in the discussions of, and presented a case to, the surgical section. The patient was brought forward by her physician, Dr. H. M. Wheeler, and Dr. Maclean explained that the lady was twenty years old, perfectly healthy, and that the sight of her eyes was not impaired; that the tumor commenced with a simple birthmark over the eyebrow and had grown gradually, but more rapidly of late, to its present size; that it was a common pulsating tumor involving the eyebrow, but did not involve any absorption of the bone. An operation had been performed on the patient six years ago, but without success. He thought from the partial examination he had made that if the common carotid artery was tied, the tumor could be removed without serious results. He asked that the members examine the tumor and make such suggestions as they thought proper.

After an examination by a number of those present, the lady withdrew, and a short discussion followed.

Drs. Moore, of Rochester, New York, and Pruett, of Missouri, were not in favor of the ligature of the artery. Both gentlemen thought that by tying the direct arteries supplying the tumor it could be removed without danger. Drs. Byrd, Quincy, and Halleck, Kansas, advised the removal by the galvano-cautery. The case was also discussed by Drs. Maclean and Lee.

The New York delegates from the State society were refused admission by a unanimous vote of the judicial committee. Cleveland was chosen as the place of the next meeting, and the following officers were elected.

President—Dr. John L. Atlee, Pennsylvania.
First vice-president—Dr. Eugene Grissom, North Carolina.
Second vice-president—Dr. A. J. Stone, Minnesota.
Third vice-president—Dr. J. A. Octerlony, Kentucky.
Fourth vice-president—Dr. H. S. Orme, California.
Treasurer—R. J. Dunglison, Pennsylvania.
Librarian—Wm. Lee, Washington.

Members of Judicial Council—N. S. Davis, Illinois; J. M. Brown, United States Navy; X. C. Scott, Ohio; M. Sexton, Indiana; N. C. Husted, New York; Wm. Lee, Maryland; J. E. Reeves, West Virginia.

OFFICERS OF THE VARIOUS SECTIONS.

Practice of Medicine—J. H. Hollister, Illinois, chairman; J. G. Lee, Pennsylvania, secretary.

Surgery and Anatomy—W. F. Peck, Iowa, chairman; Paul F. Eve, Tennessee, secretary.

Obstetrics—J. K. Bartlett, Wisconsin, chairman; G. A. Moses, Missouri, secretary.

Medical Jurisprudence and State Medicine—Foster Pratt, Michigan, chairman; Thomas L. Neal, Ohio, secretary.

Ophthalmology, Otology and Laryngology—A. W. Calhoun, Georgia, chairman; Carl Seiler, Pennsylvania, secretary.

Diseases of Children—R. Blount, Indiana, chairman; J. H. Sears, Texas, secretary.

Dentistry—D. H. Goodwillie, New York, chairman; T. W. Brophy, Illinois, secretary.

All delegates will long remember with pleasure the generous hospitality of the citizens of St. Paul.

In conclusion I must state that in writing this letter I am greatly indebted to the excellent reports which were published in *The Pioneer Press*. Yours, MEDICUS.

NOTICE TO GRADUATES OF BELLEVUE HOSPITAL MEDICAL COLLEGE.

A second decennial revision of the Catalogue of Alumni of this College is being prepared for publication, and we are requested to ask that all graduates send their present address, at once, on a postal card, to the Historian of the Alumni Association, Bellevue Hospital Medical College, New York City, New York.

A UNIQUE PRESENTATION.

VERONA, MICHIGAN, June 26, 1882.

EDITOR OF THE PHYSICIAN AND SURGEON: *Dear Sir*—Permit me to report in the columns of THE PHYSICIAN AND SURGEON a unique obstetrical case. Woman, a Pole, large and spacy; seventh child. The day previous to confinement she did a large washing. After having pains about forty-eight hours, Dr. Healy was summoned. He found the patient somewhat exhausted. Presentation was a variety of occipital; the occipital protuberance being most prominent. The body was flexed; a foot was found on each side of the neck slightly in advance of the head; funis was prolapsed child dead. Dr. Healy wishing to perform craniotomy sent for me, requesting me to bring a perforater. Neither of us having that instrument, a different management was adopted. Continued pressure dislodged the head and the case was converted into a footling and immediately delivered. Not finding the case described in my work on obstetrics (Bedford), I report it, thinking that it will afford food for reflection for some of the younger practitioners.

Very respectfully, F. B. SUTTON, M. D.

STATISTICS ON OVARIOTOMY.

NEW YORK CITY, May 1, 1882.

EDITOR OF THE PHYSICIAN AND SURGEON: *Dear Sir*—Will you kindly call the attention of the readers of your journal to the proposition which I am about to make?

A "System of Gynæcology by American Authors" is in process of preparation, and it is intended that this shall be as nearly encyclopædic as possible.

To me has been alloted the task of writing the chapter on the "History and Statistics of Ovariotomy." To obtain complete statistics of all ovariotomies done in the three-quarters of a century of the history of the operation, is a task quite impossible, as many of the earlier ovariotomists are dead, and their records lost. Even among the living many may be disinclined to co-operate with me, as they should. Although the report of each operator's cases may cost him some time and trouble, you will readily see what a valuable fund of information will be obtained by the collation and arrangement of all the facts to be gained.

It is desirable, too, to have all material ready for the press by the end of this year, so that the sooner the returns are made, the lighter will be the task of the editor. Please request all who wish to have their cases published, to send me the reports before Septnmber 1, proximo.

May I request your earnest co-operation in the matter, that the work may be worthy the great subject in hand.

The questions to be answered are as follows: (1) name of operator? (2) age of patient? (3) nationality? (4) married or single? (5) aspiration or previous tapping? (6) duration of growth? (7) laparotomy or vaginal operation? (8) condition of patient at time of operation? (9) were antiseptic precautions used? (10) was the spray used? (11) long or short incision? (12) adhesions or other complications? (13) double or single ovariotomy? (14) pathological features of cyst? (15) treatment of the pedicle? (16) with or without drainage? (17) duration of operation? (18) complicated or uncomplicated history after operation? (19) anti-pyretics used, if any? (20) result. Cause of death, if any? (21) primary or secondary operation?

Let the answers be as concise as possible. In many cases a simple yes or no will suffice.

Will you kindly assist in giving the greatest publicity possible to this notice, and publish it for a sufficient length of time in your journal? Blanks, containing lists of the questions referred to, will be sent to any address. All communications should be addressed to me at 191 Madison avenue.

J. E. JANVRIN.

[The importance of this subject will recommend itself to every one, and as we have a number of ovariotomists among our contributors, we hope that they will not neglect making reports.—EDITOR OF THE PHYSICIAN AND SURGEON.

TRANSLATIONS.

Translations from French Journals for THE PHYSICIAN AND SURGEON.
BY R. A. PACKWOOD, LES ILES, BERMUDAS, WEST INDIES.

HERNIA OF THE BLADDER (INGUINAL CYSTOCELE); DEATH AND AUTOPSY.

Among the varieties of hernia which the bladder may present, inguinal cystocele is one of the most rare. In fact, if we compare it to vaginal cystocele, of which Malgaigue and Jobert have shown the frequency, we find but few cases of this affection in literature.

It was observed for the first time in 1520, by I. D. Sala, and studied somewhat by Verdier, two centuries later, since then it is generally described in a summary manner, in treatises on surgical pathology. In 1874 Krönlein published in the *Archives für Klinische Chirurgie*, an account of strangulated enterocystocele.

In 1880 M. Ch. Leroux, intern to Professor M. Verneuil, published in the *Monthly Review of Medicine and Surgery* an account of a remarkable case, followed by some interesting reflections upon the mechanism of hernia. He concludes from these different studies that cystocele may exist alone or accompanied by entero-epiplocele, and in the latter case hernia of the bladder may be primary or secondary to entero-epiplical hernia.

The case which we are about to announce was an example of simple cystocele; it is very interesting from the fact that it passed unnoticed for some time, that it had complications, thus far not thoroughly described, and that it finally led to the death of the patient.

Patient was a man, sixty-eight years of age, cabinet-maker, entered the hôpital Lariboisiere, on November 26, 1880, under the care of Professor Duplay. He had generally enjoyed good health, though he may have had a chronic catarrh.

Fifteen years prior, patient received an inguinal hernia on the right side, which was the result of a strain. This hernia had always been easily reduced and reduction was accompanied by a distinct gurgling sound. Five years later, as the result of a new strain, the patient noticed another tumor in the left groin; this was at first very small, about the size of a hazel-nut, and appeared to have been reducible at this time. However, it continued to increase, and in four years it had attained the size of the tumor of the right side; then he began wearing a suspensory and afterwards a bandage. But in a short time, the left hernia remaining irreducible, and compression becoming painful, he abandoned the use of the left truss.

He could not inform us as to the presence or absence of gurgling in this (left) tumor (on its appearance) and we did not know whether the intestine was included in the hernia at the beginning or not.

For the past four years he had noticed that the pouch became more tender when he urinated, also that compression of the tumor facilitated evacuation. From this time he took the habit of compressing it during micturition; but after three months it became so painful and sluggish that a little urine was retained each time.

Two years prior to this time, the patient entered hospital for a hydrocele of the left side, the treatment applied was followed by complications, which compelled him to remain in the ward four months. During all this time no attention was given to the inguinal tumor (left), which was thought to be nothing more than an ordinary hernia, notwithstanding that he had already presented difficulties in micturition.

Actual Condition.—There was very marked swelling of the hypogastrium, limited above by a horizontal depression situated five finger breadths above the pubis and extending into the inguinal region. This swelling was formed by two tumors having their centers at the inguinal orifices, quite independent of one another, the right the smaller, the left passing the median line and coming almost in contact with the preceding. The right tumor was about the size of a small hen's egg; it did not descend into the scrotum; was a bubonocele, being reduced with gurgling sound. After reduction the finger could be entered at the enlarged inguinal ring.

The left tumor was about the size and form of a cocoanut (he had not urinated for an hour). The tumor was soft and fluctuating, and not adherent to the skin, it descended slightly into the scrotum. Its inferior portion was in contact with the testicle, which could be isolated; but the cord could not be isolated, and was situated outward and especially backward. The standing position or coughing caused the pouch to swell; percussion aggravated it; it could not be reduced.

Telling him to urinate, he made some effort and expelled a few drops, but by making pressure on the tumor above and below, an emission of urine followed, which diminished its size. Evacuation was easiest by use of the catheter. At first a metallic instrument was tried, but nothing passed. Afterwards a caoutchouc catheter was introduced to the depth of thirty-one centimeters; though a large quantity of urine flowed away, still the tumor could not be completely evacuated without manipulation and pressure, it then had the size of a large hen egg, and soft consistence.

We assured ourselves that the two surfaces (anterior and posterior) glided over each other, and though the skin and cellular tissue intervened, a fasciculated membrane could be distinguished. The tumor was traced as far as the inguinal ring, and was attached by a cord three centimeters large.

An injection of warm water reappeared in the tumor, and this gave us an idea of the probable capacity of the portion of the bladder remaining in the pelvis, which must have been pretty small, for when the injection was made the inguinal pouch was dilated. The urine of the patient was colored and highly scented; there was vesical catarrh, though it had not been examined.

Rectal touch detected the existence of hemorrhoids, and prostate somewhat enlarged. But this mode of exploration did not give any certain situation of the base of the bladder.

The treatment consisted of vesical injection of tar water, turpentine in capsules, milk, infusion of dog grass, and Todd's potion. In spite of treatment the condition of the patient became markedly aggravated.

Toward the 1st of January urination became very difficult; even by the use of the catheter it was not always easy to empty the bladder; the urine grew fetid and contained large quantities of pus.

On January 5 the patient experienced some chills; the temperature was rather low, oscillating between 36.4–36.8°. There was an adynamic state, with a little delirium, tongue coated and complete anorexia. Respiration was short and frequent without presenting the type of "Cheyne-Stokes." There was diarrhœa, and we thought pyelo-nephritis complicated with uræmia. In this condition the patient died on the 7th day of January.

Autopsy.—Lungs and bronchi. Both lungs were emphysematous, but did not show any inflammatory lesion. The two large bronchial tubes were the seat of chronic inflammation.

Heart.—The heart was large and the right cavities were dilated.

Kidneys.—The left kidney was hypertrophied, but except a certain degree of redness, it did not present any appreciable lesion of its two substances—medullary and cortical. But the calices, the pelvis and ureter contained a purulent and ill-looking fluid.

The right kidney was equally hypertrophied. On section other lesions of pyelitis were met and disseminated here and there little suppurating foci, about the size of a pea. The cortical substance showed a bright red color. In short, this kidney was the seat of a well marked pyelo-nephritis.

Examination of the hernia.—Having raised the skin and superficial facia of the inguino-abdominal region, the two tumors came plainly into view.

The right hernial sac was much hypertrophied and situated internally to the cord; it was separated from the left pouch by a space of about one and one-half centimeters. The left pouch also presented very thickened walls; the bladder was found covered by a sac formed by the facia transversalis, forced outward and much thickened; and it had contracted strong inflammatory adhesions with the external inguinal orifice. The inferior extremity was attached to the corresponding testicle which was atrophied and degenerated, the two organs were separated by dissection, the cord was large though contracted in length.

The tumor had entered the pelvic cavity so as to raise its contents, the mass thus raised contained the bladder, rectum and that portion of the peritoneum in contact with those organs. Examining the inguino-abdominal region, interiorly, we saw that the peritoneum formed a sac, on the right; which was adherent to the corresponding inguinal canal; the portion of small intestine (?) in this hernia was easily detached. On the left the peritoneum had not adhered to its corresponding inguinal orifice, its position was normal. We noticed only at the part where it should cover the summit of the bladder, a very solid adhesion with the descending colon. This adhesion indicated either the remains of an old inflammation or the existence of a recent one concealed under the peritoneum. An injection through the urethra showed nothing more than a slightly appreciable wave motion of the peritoneum, at the point where the bladder is ordinarily situated, while the extra-abdominal pouch swelled immediately and changed so that its inferior portion became the anterior.

Detaching the parietal peritoneum from the transversalis fascia, we found a collection of about twenty-five grams of very fetid pus. This collection corresponded to the intestinal adhesion noticed above. It was situated directly upon that portion of the bladder remaining in the pelvis.

Having dissected all the peritoneum from this region, and isolated the prostatic and muscular portions of the urethra, the following was brought to view. There was not complete hernia of the bladder, only about two-thirds of it protruding. The two inguinal rings were much dilated and an injection passed easily into the external sac.

The transversalis facia was much hypertrophied (about five millimeters) and formed a sac over the cystocele.

Adhesions had formed between this facia and the inguinal canal which rendered it irreducible; there were adhesions also between the bladder which were easily detached at certain points. The prostatic and vessical portions of the urethra which did not enter into the hernia formed a sort of oblique canal above and to the left which rendered catheterism difficult. We made an incision through the vertical diameter of the hernia. Having divided the different layers over the thickened transversalis fascia we came upon the bladder, the walls of which were incised in the same manner; these were greatly hypertrophied, and its muscular structure infiltrated with a sanious and purulent fluid but no collection at any point. The inner surface of the bladder was of a deep red color and presented blackish spots in some places. If now we recall the two inflammatory lesions with which the cystocele was complicated, it is easy to establish the relation of the conditions which led to death. The difficulty of micturition due to displacement of the bladder gave origin to purulent cystitis, both intra and extra parietal which was later complicated with an equally purulent pyelo-nephritis, bordering on fatal uraemia. There was no hydronephrosis nor diliation of the ureters, as was observed by M. Ch. Leroux.

Regarding the question of mechanism, which may vary according to the case, as very clearly shown by Leroux, it seems quite reasonable in this particular case to take into consideration what has been demonstrated in a clear manner by Néalton:

(1) We should consider the extent to which the bladder is distensible above the symphysis pubis.

(2) The strain due probably to cough by virtue of which the anterior part of the organ in contact with the walls of the bowel became engaged in the inguinal canal.

Translations from Russian Journals for THE PHYSICIAN AND SURGEON.
BY RALPH D'ARY, M. D., ROMEO, MICHIGAN.

SALICYLIC PSYCHOSIS.

Salicylic acid and its salts are daily growing in importance as therapeutical agents in certain diseses. The brilliant results obtained by the use of these remedies in acute articular rheumatism, and to some extent also in diabetes, as well as their antiseptic and antiphlogistic properties, have made them favorite remedies. But as there is no rose without thorns, in likewise salicylic acid is not without some disadvantages, which cannot be ignored. The following case will show what unpleasant consequences sometimes follow the internal use of salicylic acid even in comparatively moderate doses.

On June 28, 1881, the peasant woman M. M. entered the Rostof Circuit Hospital. She complained of aching in the legs and general debility. A year previously she had taken cold, whilst washing clothes in the river, in stormy weather. Two days later she had a chill and fever, with swelling and intolerable pain in the joints, first in the knees, then in the shoulders, and finally in the phalangeal articulations of the fingers. In about two weeks the pain began to abate and gradually she was able to resume her usual occupation. In less than a month, however, and without apparent cause the pain returned, settling exclusively in the knees and the articulations of the index and third finger of the right hand. Since that time the pain had continued with variable intensity during the whole year. During damp and stormy weather it was so severe that the patient was deprived of sleep and appetite, and had to remain motionless in bed. Since April she had not been able to leave her bed because her "feet would not bend."

She entered the hospital during one of the periods of exacerbation, being unable to endure the excruciating pain. During all her illness she had not applied for advice or help to anyone. Previous to this disease she had always had good health. In her family there had never been any cases of mental or serious nervous diseases. She had always led a sober, laborious, and abstemious life. Her occupation was labor in the field and garden. The hygienic conditions of her home, like those of most peasants in the Yaroslaf Province, were unsatisfactory.

She is forty-four years old, but appears much older; her face is emaciated and bears a suffering expression; her head is of normal shape. The knee-joints are enlarged, so that the outlines of the patella and the articulations in general are obscured. The integument is œdematous, but of normal color. Mobility of the joints is considerably impeded. The posterior tendons of the thighs are contracted. On making passive motion there is audible a slight grating and pain is produced. There was no fluctuation. The enlargement of the knee-joints is the more obvious because the adjacent muscles are atrophied (etc., etc.) Evidently we have to do with a temporary exacerbation of chronic articular rheumatism, originating as a sequel to the acute disease in consequence of poor hygienic conditions, poor food, and lack of treatment. Her organs of special sensation acted normally, and she had neither hyperæsthesia nor anæsthesia; her mind was sufficiently developed and clear, and we could not detect anything abnormal in her mental condition. But she was very weak and down-cast, and showed some nervous irritability. She suffered from insomnia.

As previous experience had taught me that salicylate of soda is most efficient in that form of chronic rheumatism, which follows the acute attack. I prescribed a solution of salicylate of soda (one drachm to six ounces) in tablespoon doses every two hours, and ordered the affected joints to be painted with tincture of iodine. On the 30th she felt better and had but little pain in the joints. The night she had passed very comfortably and had some appetite. The bowels had acted normally; her temperature was 36.8° and 37.2°; pulse, 76. The same treatment was continued. On the 2d of July she felt very well and the pain had left her entirely. Appetite and sleep were satisfactory and she was very cheerful; temperature 36.9° and 37.2°; pulse 72.

In this condition she continued till the 8th. The temperature never exceeded 37.5° and her strength began to return. Only the swelling and immobility of the joints remained unaltered so that she could not walk. During the ten days of her stay in the hospital she had taken altogether five drachms of the salicylate of soda, namely thirty grains per day.

On the 8th she did not feel well. She complained of annoying noises in the ears and a heaviness in the head. She had no appetite and her tongue was furred. Although she had had no pains in the joints, she had not been able to sleep at all during the night. She was much discouraged and irritable. Temperature 37.2° and 37.9°; pulse full, 84. Instead of the salicylate I prescribed bromide of potash. The night from the 9th to the 10th she did not sleep and at 3 o'clock in the morning she became very much excited, talking uninterruptedly and with much gesticulation to some imaginary persons; jumped frequently from the bed and looked anxiously out of the window. Although she had always been very modest and quiet, she now used improper language and scolded the nurse with indecent epithets; laughed frequently, sang snatches of songs and seemed very merry.

At 8 o'clock in the morning I found her in the following condition: She was sitting on her bed, swinging her feet and laughing; her face was red and œdematous; the eyes injected and wandering. The expression of her face was wild and changed continually. Her head was hot. The pupils were moderately enlarged and reacted to the light. The jugular veins stood out prominently; temperature, 37.8°; pulse full and hard, 120; breathing, 24. She was very much excited and merry. Talked incessantly and incoherently about family occurrences and occasionally in an amorous fashion. Her moods changed frequently; she moved impetuously and gesticulated with her hands, continually changing her position. Catching sight of a man she smiled coquettishly, asked him to sit down closer to her, and pressed and stroked his hand. She used ambiguous expressions, and tried, without any occasion, to expose her limbs. In answer to a question about her health she said: "Thank God, all is well; they are going to take me away presently in a state carriage." She apparently had hallucinations of sight and hearing. She had neither appetite nor stools. She was transferred into the psychiatric division of the hospital where the bromide of potash was continued with the addition of chloral hydrate for the night.

On the 11th her condition was unchanged. On the 12th at noon she fell into a profound sleep and slept six hours, after which she woke up more composed and asked for some tea. She had an imperfect remembrance of her condition during the preceding days.

On the 13th she was quite rational and felt pretty well; had no pain in the joints. In her mental condition nothing abnormal could be detected even on most careful examination. She was therefore re-transferred to the general therapeutic ward, where she remained for nine days longer and was then discharged. Her rheumatic condition was considerably improved. The mental disorder had disappeared without a trace.

Considering this case we naturally ask: What caused the attack of acute mania in our patient?

The explanation might be threefold:

(1) The psychosis might have been an accidental complication, dependent on remote causes having no connection with her disease—rheumatism, or

(2) It might have been a result of the rheumatic process, or

(3) And finally, it might have arisen from the use of the salicylate, which is known occasionally to act unfavorably on the nervous system.

Let us see how much probability may be claimed for each of these three explanations. Previously to the 8th and subsequently to the 13th of July her mental condition had presented nothing abnormal. We know that she always had had good health of body and mind, and that there was no hereditary disposition to mental disease. This is sufficient to exclude chronic mania. Neither had her affection a sufficient resemblance to the mania transitoria of Krafft-Ebing, for there had been no preceding mental shock. Neither did she evince any manifestations of terror or impulse to violent destructive actions. Further, in mania transitoria the attack lasts only a few hours, and when it has subsided the patient remembers nothing of what has happened.

With equal right we must exclude in our case the so-called *rheumatic psychoses*, for they appear only during the course of acute articular rheumatism, and they are preceded by severe pain in the joints, insomnia and high fever (Tüngel). Moreover rheumatic psychoses generally take the type of melancholia, less often that of mania (Simon).

We are therefore forced to conclude that the present attack of mania was the result of the salicylate of soda. That this drug is capable of producing temporary functional disorders of the central nervous system is admitted by many clinicists. Diesterweg, for instance, observed in two patients something like alcoholic intoxication from the use of salicylate of soda. Finlay and Lucas mention cases in which it produced nausea, vomiting, headache, and delirium. Charkey observed nervous irritability, accelerated respiration and uneasiness. (However, he had never observed delirium, although he had treated one hundred and fifty cases with salicylate of soda). Stricker has observed, in some patients, a cheerfulness simulating drunkenness, which lasted twenty-four hours and ended in profound sleep.

If we are to judge from our patient, who was anemic and weak, we should say that in similar subjects the salicylate should be used carefully. Five drams, taken in the course of ten days, were sufficient to consign our patient to the lunatic ward, yet many physicians believe these doses to be too small, and prescribe this far from inert remedy with an open hand. —L. Bogdanof in *Vratch.*

Translations from German Journals for THE PHYSICIAN AND SURGEON.
BY VICTOR C. VAUGHAN M. D.

PARENCHYMATOUS NEPHRITIS AND GASTRITIS.

Dr. Henoch (*Charité-Annalen*) first saw, June 14, 1878, a boy, nine years of age, suffering with symptoms of chronic nephritis and pain in the stomach. Three days latter, the boy complained of pain in the left leg and was very weak. There was no fever. On the fifth day from the time the patient was seen he died. On postmortem, the left side of the heart was found to contain an old, decolorized clot, and another was found in the left iliac artery, extending into the femoral and hypogastric. There were found broncho-pneumonia, subpleural ecchymosis, and chronic parenchymatous nephritis.

The gastric mucous membrane, especially of the fundus and along the greater curvature, was of a deep red color and swollen, and was covered with a ropy, bloody mucus (Gastritis hemorrhagica).

It may be possible that the relation between the nephritis and gastritis was only casual. H. noticed a second case of nephritis with hemorrhagic inflammation of the ileum. This was in a child eleven years of age.

[NOTE.—This probably explains the fact, so often noticed, of serious gastric disturbances in chronic nephritis. Urea and other constituents of the urine have been found in the vomited matters in such cases. Evidently marked gastric disturbances frequently occuring in a case of chronic nephritis must be regarded as unfavorable indications.—TRANSLATOR].

THE ETIOLOGY OF A TUMOR.

Dr. Maas (*Berlin Klin. Wochenschr.*) has had the opportunity of observing the following interesting case of congenital sarcoma: a boy, nine months old, was brought to the clinic. At his birth a tumor, the size of a hazelnut, was observed on the left side of the thorax. This tumor had grown rapidly and perforated a part of the skin covering it. It was found that the tumor filled the whole of the axilla and extended from the second to the seventh rib. The tumor was elastic and was composed of a great number of small bodies, the size of walnuts. The growth was extirpated and was found to consist of a number of pectoral and axillary lymph glands, which measured from three to four centimeters in diameter. The gland substance was penetrated by a fine-celled sarcoma tissue, and in the small glands could be found only small milliary granules and no caseous particles.

ALBUMINURIA AFTER EXTERNAL APPLICATIONS OF TAR AND IODINE.

Dr. Jacubasch (*Charité-Annalen*) found that after having made applications of a tar-vaselin (picis liq. one part. vaselin, ten parts), to a child seven years old for eczema, albuminuria appeared, and continued for seven days, after the discontinuance of the applications. On repeating the application, the albuminuria reappeared and continued for six days. It was proven that the vaselin alone would not produce this effect. Dr. J. noticed the same effect to be produced on two other children, aged six and eight years.

He also observed that albuminuria and fever followed the application of iodine to a swollen scrofulous gland in a girl four years of age.

Albuminuria, after penciling with iodine, had already been observed by Simon and Budin, but only in children. J. noticed the same in a lady twenty-five years of age, seven hundred square centimeters of whose skin had been penciled with iodine. Salts of iodine do not produce this effect, nor will it follow if the surface, to which the iodine has been applied, be washed with a solution of common salt or soda.

Von Lassar reports a case of fatal albuminuria, in a man, following an application of petroleum to the whole surface of the body, on account of itching. Lassar has experimented by rubbing petroleum into the skins of animals. He found that it caused rapid degeneration of the epithelium of the uriniferous tubules.

CHANGES IN THE KIDNEY IN ALBUMINURIA DIPHTHERITICA.

Dr. Brault (*Jour. de l'Anat. et de la Phys.*) gives the results of his examination of the kidneys of five persons, whose kidneys had been sound until they were taken with diphtheria. In two of the cases there was slight congestion, while in the other three nothing worthy of note was observed by the naked eye. Under low powers, the cappillaries of both the cortical and medullary portions, in all the cases, were found enlarged and filled with blood. The tubules were here and there distended with a solid exudate, or when of normal size, the lumen was occupied by a grayish-black coagulum.

Under higher powers the vessels of the glomeruli seemed distended. Here and there were hemorrhagic spots, and within the glomeruli could be seen white corpuscles and loose pieces of epithelium, which were suspended in an exudate. This exudate formed a net work and contained some gray, some light, round and oval corpuscles.

The walls of the glomeruli were normal, but the epithelial cells were enlarged.

The epithelia of the tubules were so enlarged that frequently they closed the lumen. The cells were all infiltrated with a granular protoplasm.

Dr. B. could not convince himself that these granular masses were micrococci. The exudate in the uriniferous tubules did not differ from that of the glomeruli, except that in the former, the bright corpuscles were more numerous. Similar conditions were found in Henle's loops, only that here the exudate was more homogeneous and coagulated, forming hyaline cylinders. The connective tissue seemed normal. Nephritis diphtheritica is a parenchymatous rather than an interstitial form of nephritis. When the source of infection is removed, the kidney complication tends to recovery; but by the continuance of the trouble, the closure of the uriniferous tubules may lead to anuria, uraemic symptoms, eclampsia, etc.

BOOK REVIEWS.

A STATEMENT IN BRIEF of some of the circumstances and events which led to the arraignment, before the Honorable Board of Regents, of E. C. Franklin, Professor of Surgery in the Homœopathic College of the University of Michigan, with the action of the Board of Regents in the matter, May 3, 1882. By Donald Maclean. Published and for sale by O. J. Fay, Ann, Arbor Michigan. Price ten cents.

This is a brief review of the various complaints made by the homeopaths against the department of medicine and surgery, of the University of Michigan. Recently, Regent Cutcheon has shown that the plea of being martyrs set up by the homœopaths is an unjust one. Since the establishment of the homœopathic school, as many as six men appointed to professorships in that school have resigned or have been discontinued. Regent Cutcheon stated that in every instance the trouble had come from the homœopathic ranks. Deputation after deputation of homœpathic physicians have visted the University and requested the dismissal of this or that man on account of incompetency or from some other cause. Recently, E. C. Franklin, professor of surgery in the homœopathic school, preferred charges against Professor Maclean. The Regents investigated these charges and then adopted the following resolutions:

WHEREAS, Charges affecting the professional and moral character of Professor Donald Maclean have been presented to this Board, and

WHEREAS, Such charges have been duly investigated and not sustained, therefore

Resolved, That we, as a board, hereby express our confidence in Professor Donald Maclean, as a man whose character is above reproach, and that we as a board believe the charges urged against him to be without any foundation whatever, and that he has in all things acted with a view to the best interest of the University of Michigan.

Adopted unanimously. H. D. BENNETT, Secretary.

Professor Maclean also introduced some charges against Professor Franklin. These charges, as we take them from the pamphlet before us, were as follows:

(1) "Ic harge Professor Franklin with using his position in the University to deceive and mislead the public; (*a*) by publishing false reports of the effect of treatment, as in the case of Ida Monroe and others; (*b*) by falsifying University statistics."

(2) Dishonest teaching of students in claiming originality in certain surgical appliances. For Example, Dr. Franklin stated at a public clinic in presence of your Honorable Board and myself, that he (Franklin) had modified and improved Professor Sayre's methods of applying plaster of Paris casts,

that Professor Sayre had adopted his (Franklin's) modifications and improvements; also that when he (Franklin) lived in Saint Louis, Missouri, Professor Sayre was in the habit of sending cases to be treated by Dr. Franklin. On the occasion when these statements were made I observed to members of the board that they seemed to me incredible and absurd, but to decide the matter I wrote a note to Professor Sayre and received the following very decided and definite reply:

285 FIFTH AVENUE, APRIL 24th, 1882.

PROFESSOR DONALD MACLEAN, M. D.: I wrote you some months since that I knew nothing of this so-called Professor Franklin, had never *seen* or *read* of any of his *modifications* or *improvements* in my mode of applying the "Plaster of Paris Jacket," and consequently I could not have advised his method as I know nothing of it. Very respectfully yours, etc.,

LEWIS A. SAYRE.

(3) "Apparent complicity in the disgraceful scandal known as the Smoke will case."

For want of space we give the evidence for only the second charge. The others were equally well sustained and we would refer any of our readers interested to the pamphlet. Professor Franklin was given notice and time to defend himself from these charges, but when called upon by the Regents he put in no reply but a general denial.

THE CENTURY MAGAZINE (Scribner's Monthly) for June. Subscription price, $4.00; single numbers, 35 cents. The Century Company, Union Square, New York.

This number of *The Century* is up to the usual standard. The leading articles are: "Around Cape Horn," a jolly, rollicking story of a long sea voyage with the pleasant side much emphasized. "John Henry Cardinal Newman," a sketch of one of England's greatest scholars and most astute theologians. "The Danger of an Office-holding Aristocracy," is a well written paper and should be read by every citizen who has at heart the reformation of the disgraceful state of affairs that now obtains in our civil service. Besides these there are some poems on Longfellow, which are almost worthy of their subject.

SAINT NICHOLAS for June. Subscription price, $3.00; single numbers, 25 cents. Century Company, Union Square, New York.

The beautiful frontispiece in this number of *Saint Nicholas*, entitled Longfellow and his boy visitors, and the loving and appreciative sketch of the poet's life, by Lucy Larcom, are alone worth the year's subscription. "Seals and Seal Hunting in the North Atlantic," is the title of an article that will interest grown people as much as the little folks, and will richly pay for the time spent in reading it. Besides these there are stories, poems, pictures and puzzles so rich and varied as to satisfy and make glad the most exacting of the little folks.

SELECTED ABSTRACTS.

ABORTIVE TREATMENT OF BUBOES AND LYMPHADENITIS GENERALLY BY INJECTIONS OF CARBOLIC ACID.

Dr. Morse K. Taylor (*American Journal Medical Science*), after reviewing the different methods of treatment previously proposed, says:

"For nearly seven years I have pursued a different course in the treatment of this class of affections, and limited my practice to simply injecting the glands with solutions of carbolic acid. In this time I have treated nearly one hundred and fifty cases of various forms of lymphadenitis, arising from specific and non-specific causes; and, where I have seen them before the formation of pus was well established, I have not failed to arrest the process immediately, and allay the pain in a few minutes. To indicate more fully the success attending this mode of treatment, notes of a few of my cases are herewith submitted. They are condensed as much as possible to save time and space.

Case I.—While I was stationed at Austin, Texas, Mr. K., an English gentleman, aged about thirty, and of excellent physique, called on me May 2, 1875, on account of a painful bubo in the right groin. He was desirous of going to Mexico, and was much distressed at the prospect of being delayed by the impending abscess; besides, having been exceedingly annoyed for two or three nights with the pain, and this, to the extent of allowing him no rest. The swelling and soreness were such that he could not stand erect or walk without great suffering. He gave, as an explanation of the cause, that he had been riding several days very hard on horseback looking up lands, and that about a week before he was out in a rain storm nearly all day, at the close of which he reached that city. During the day he had felt some slight pain in that region, but paid no attention to it until the next morning, when he noticed a kernel there, which was quite tender to the touch, and annoyed him when he walked; and that, from that time to the present, it had been steadily enlarging and growing more painful. He stated further that, being a stranger, he had been advised to employ a certain physician, which, subsequently, he found to his disgust, to be a homœopathist. An examination revealed no venereal disorder, and he denied ever having had anything of that character. He was very anxious to proceed on his business, but more so to be relieved of the pain that he might get some sleep.

The tumor was about two and one-half inches in length, of an ovoid shape, rather superficial, and situated on the inner aspect of the thigh just outside the femoral vessels, and perhaps two inches below Poupart's ligament. It was in the same region in which we so frequently find similar forms of lymphadenitis in cavalrymen after exposure and hard riding.

It was very painful to the touch, the skin was of a rose tint over a large part of the tumor, and from the general appearance it was on the verge of suppuration. I was inclined to poultice it, but he objected to that, and wanted something more prompt for the relief of the pain. Morphine hypodermically suggested itself, but recalling the remarks of Surgeon J. H. Bill, of the army, on the local anæsthetic action of carbolic acid, and the further fact, that, in those cases where I had aspirated buboes, and thoroughly washed them out with carbolic solutions, the pain and soreness had been promptly relieved, I determined to give it a trial in this instance. Accordingly I prepared a solution of four grains to the ounce of distilled water, and after chilling the surface with ether spray, so as to diminish the sensitiveness, I seized the tumor firmly, and injected into the center of the gland twenty minims of the solution. Feeling somewhat uncertain as to the result, I concluded to remain at his bedside and watch events. The operation gave very little pain. In about fifteen minutes he changed his position, when he remarked with some surprise, "I'm blarsted if I don't think that thing feels better." "It don't hurt me at all now to move my leg."

From this time there was no more pain or soreness worth mentioning. Not expecting to arrest the formation of an abscess, I called the next day under the impression that he would be again complaining, but to my gratification he stated that it had not troubled him in the least, and that he "could walk without minding it." I injected it again, however, and repeated the operation the second day thereafter, fearing that the inflammatory action might be renewed. But there was none whatever, and from the day following the first injection, he went about his usual business. The only additional treatment he received was a saline laxative. In ten or twelve days the tumor was not discoverable."

The author gives a number of cases, some specific, others non-specific, treated with good results. As to the details of his method he says:

"Some care is required to insure certainty in reaching the central portion of the gland, and without this the effort may fail of its purpose. To that end, therefore, I have found it better to wait until the gland has attained to some size, and its stroma sufficiently distended to admit of the free permeation of the injection to all parts of its structure. I have injected them when quite small in the earlier stages, but generally, when I have done so, a second operation has been required, the reason being in my judgment that the gland is too dense for the injected fluid to reach all parts; and the further cause, perhaps, that the inelasticity is such as to force out the fluid immediately, thereby preventing its specific action.

It is also better to refrigerate the skin over the tumor, in order to diminish the sensibility and permit the gland to be firmly held so as to determine its size, and to ascertain the depth to which the needle must penetrate to reach its central parts, while an additional benefit is obtained in the relieving of the patient of any sense of apprehension of pain due to the operation. With some patients this is indispensable to success, for not infrequently, by the cringing of the lower abdominal muscles, and the raising of the leg at the same time, the bubo is placed beyond the firm support of the fingers, the needle thereby misdirected, and the fluid but partially thrown into the gland, or, perhaps, merely into the surrounding external tissues. Only failure could be reasonably expected in such cases.

As a rule, the depth to which the needle should be thrust can be determined by indicating approximately on it, two-thirds of the narrowest diameter of the tumor when firmly held between the thumb and fingers. Taking this measure as a guide, it will admit of the needle being introduced a little obliquely to the surface of the capsule, so as to make a valvular opening, thereby preventing reflux action; and this effect may be further assured by a momentary digital pressure following the withdrawal of the needle.

The average time my patients have had to forego their usual vocations, has not exceeded three or four days, but many will go on with their usual employments if assured they can safely do so; an assurance I have not hesitated to give, after ascertaining whether or not a second injection would be required.

The *rationale* of the treatment can be understood if we accept of the views of those who took part in the international medical discussions, which were to the effect, in general terms, that lymphadenitis, in all its forms, is the result of the absorption of septic matters from some neighboring parts, hence, by destroying these zymotic elements, we remove the offending cause and arrest the morbid processes consequent thereon. But I am not sure that this is all of it; on the other hand, I am satisfied that the local anæsthetic action of carbolic acid is not a less important factor in the treatment. Many other antiseptics, such as iodine, boracic acid, chloride of zinc, corrosive sublimate, etc., all of which are very prompt in their antiseptic action, have been used, yet they have generally failed to check the inflammatory action, or to allay the pain; on the contrary the latter has been greatly augmented, becoming at times almost unendurable. Allaying pain is a necessary element in the treatment of any form of disease, and in so far as local effects are concerned, we have no agent equalling carbolic acid in this respect.

RETRACTILE ALBUMEN.

A distinction was drawn first by Bouchard, in 1880, between retractile and non-retractile albumen, and he sought to establish the clinical significance of the two varieties. When albuminous urine is coagulated by heat, the precipitate sometimes has a homogeneous appearance, but sometimes is in the form of definite flocculi. The latter he regarded as the normal albumen of the blood, which could only pass out by the kidneys if there was an actual alteration of the renal filter. On the other hand, the non-retractile albumen is altogether abnormal, dialysable, and capable of passing out through the kidneys although these are in a normal state. Thus the character of retractility was supposed to be an indication of actual disease of the urinary organs. This supposed distinction has attracted much attention on the Continent. Unfortunately Lépine and Cazeneuve have shown that the difference in the form assumed by the coagulated albumen depends much more on the liquid in which the coagulation is effected than on the albumen. The addition of an alkali prevents retractility, and conversely an apparently homogeneous precipitate retracts into flocculi if a little acetic acid is added, no doubt in consequence of the decomposition of the alkaline albuminates. These conclusions have been confirmed by a series of observations made during the past winter by Dr. Rodet, of Lyons. In some urine from a patient with typhoid fever, which contained a small quantity of albumen, on two successive testings, he obtained in one flocculent and in the other non-retractile albumen. The reagent employed was that preferred by Bouchard, Tanret's solution, which consists of iodide of mercury dissolved in iodide of potassium and acidulated with acetic acid. The effect was found to be due to the amount of the reagent employed—a small quantity caused manifest retractility, but with a larger quantity this character was only observed in a slight degree after the urine had been boiled for one or two minutes. In a specimen of highly albuminous urine from a case of acute nephritis a flocculent precipitate was obtained when Tanret's solution was added in whatever quantity; but if the urine was dropped into the heated reagent, the precipitate was non-retractile. On diluting the urine the retractility of the albumen was found to progressively diminish. When slightly diluted a few drops of the reagent yielded large flocculi, but they were much smaller with a larger quantity of the reagent. An extensive dilution abolished all retractility, whatever amount of the reagent was employed. No doubt it was the small quantity of albumen which occasioned the absence of retractility in the febrile cases observed by Bouchard, and gave him the erroneous idea that the character indicated a change in the blood and not in the kidney. It is clear that the differences in the character of a precipitate of albumen depend much more on the liquid in which it is formed than on the composition and character of the albumen itself. Indeed it is very doubtful whether there is any physical property in the precipitate which can properly be described by the word retractility. —*The Lancet.*

ON THE TREATMENT OF ECZEMA BY DIET.

The treatment of eczema by a Banting's diet, as recommended by Mr. Balmanno Squire in the *Journal* for April 8, is by no means a new departure in the dietetic treatment of skin-disease. The plan has been in use here for several years. The extraordinarily rapid way in which cases of the most chronic kind recover by careful dieting on Banting's principles is very remarkable.

The following is an example:

Richard O., aged nine, had suffered from general eczema ever since he was five months old. For this he had been under constant medical treatment, without any permanent good being effected. He came to the hospital on March 6, where he has since regularly attended as a patient of Mr. Walker. He was ordered the rigid diet. After a fortnight's careful adherence to the diet ordered, an appreciable improvement was noted; in a month he was rapidly improving, and now he is almost well. The only other treatment was an ointment of pitch and vaseline.

I could adduce other examples from private, as well as from hospital, practice. I have chosen the above, as it appeared to be an unusually hopeless case of chronic skin-disease. The best results of Bantingism are, no doubt, seen in lymphatic infants; but it is also applicable to the chronic eczema, local or general, of adults. Mr. Squire would apparently restrict the employment of this diet to eczema. As a matter of fact, the Banting diet is of great value in other skin-disorders, especially in the chronic skin-affections of stout free-living patients about fifty years of age.

As to the use of cod-liver oil, I am not disposed to concede that in every case this most valuable medicine and food-stuff must be excluded. In sallow phlegmatic children, provided the digestive powers be fairly good, I believe the oil, used in small doses, to be of the highest importance. It is well known that cod-liver oil aids digestion where it can be tolerated, and it is usually granted that it acts in this way by aiding the conversion of nitrogenous food. In some children, if all fatty material be forbidden, the digestion ultimately suffers, and the little patient becomes troubled with irregularity of the bowels, and also coldness of the feet and hands, with a tendency towards catarrhal affections of the respiratory tract. In these instances, a little cod-liver oil, while not supplying too much fat, yet provides enough for purposes of digestion and proper maintenance of the heat of the body. Clinically, it is found that the oil answers best when given after the diet has been rigidly adhered to for at least three weeks or a month; that is, when the system begins to feel the deprivation of fatty materials. The presence of any of the symptoms or signs of lithæmia, would, of course, at once negative the use of cod-liver oil.

I have now so frequently noticed improvement in cases of various kinds, not only skin-diseases, by the omission of milk and an excess of saccharine and starchy food from the died, that I venture to think that "Bantingism" is not sufficiently made use of in these days.—A. C. Rich, M. B., in *British Medical Journal.*

OVARIOTOMY.

The thirty-fifth annual report of the Samaritan Free Hospital, for the year 1881, contains various matters of interest. We refer to the report chiefly for the statistics of ovariotomy and its success during the last year. The time has gone by when any hospital or any single operator had a monopoly of skill in regard to this operation. Nevertheless, the association of this hospital with the triumphant vindication of ovariotomy as not only a safe, but a life-saving procedure, gives its operations somewhat of a special interest still. During the year 1881 there were eighty-four ovariotomies and ten deaths. Some were done with antiseptic precautions and some without. Dr. Bantock treated his cases non-antiseptically. Of thirty-four of his cases eight died, or 23.52 per cent. Dr. J. Knowsley Thornton operated antiseptically in forty-one cases, of which only two died, and Mr. Meredith had nine ovariotomies, with antiseptic precautions, of which none died. Dr. Bantock explains in a note that five of his eight fatal cases died from causes having no bearing on the question of antiseptics, namely, two from shock and the severity of the operation, two from hemorrhage, and one from intestinal obstruction. Even so, there remain three deaths in thirty four ovariotomies treated without antiseptics, as against two in fifty cases treated antiseptically. The result is not otherwise in regard to other operations. Thus of eighty-seven non-antiseptic operations thirteen died; while of eighty-three antiseptic operations, or including Mr. Meredith's, ninety-four, only five died. The tables include nine oöphorectomies; of these one died in the non-antiseptic series. It is evident that this operation will have to be undertaken with considerable reluctance and care, whether we regard the risks of it or the moral questions arising out of such a serious mutilation.—*The Lancet.*

TWO VIEWS OF BACTERIA IN DISEASE.

There are those who become soon wearied of bacterial pathology, just as some people are unable to stand much metaphysics. But the significance of bacteria in disease has to be settled somehow; and that settlement will be delayed just as much by obstinate indifference to facts as by precipitate acceptance of everything that is vouched for, in the *Times*, or elsewhere, by some one or other of the day's distinguished names. The incredulous who looked at Dr. Koch's tubercle preparations the other day at King's College will, at any rate, admit that bacilli were there, and they will, perhaps, begin to ask themselves what the presence of organisms in the tissues may mean. The friends of bacterial pathology, having got over their first feeling of admiration for the neatness of the result, will, perhaps, also begin to ask themselves whether there are no alternative hypotheses. It is well known to barristers practicing in criminal courts that a jury, trying a case of murder, is greatly helped towards a verdict of conviction by having the murderous chopper handed around among them. The counsel points to it with a certain air of conclusiveness. "Gentlemen of the jury," he says, "I put into your hands the identical chopper; take a good look at it, and tell me whether you can doubt any longer." As there may be more than one story told of the chopper, so may there be various associated circumstances for the bacillus. While we await from Dr. Koch the many interesting details that are wanting to make his account of tubercular bacilli isolated by dry culture read smoothly, it may not be unprofitable to occupy the interval with a brief statement of the positions taken up by two different schools of bacterial pathology.

The school to which Dr. Koch belongs is represented among the botanists by Professor Cohn, of Breslau. They maintain that each specific disease is caused by a botanically specific bacillus. The bacilli of disease are distinguished from one another no less by morphological than by functional characters; even if it be in nothing but their reaction with the aniline dyes, Dr. Koch will still find distinctive characters for them. From that extreme position Pasteur has lately withdrawn; he gives up morphological specificity, but he clings to specificity of function. He found in the body of a child, which had died of hydrophobia, a certain organism; he cultivated it, and it changed its form; but, notwithstanding the change of form, the inoculated culture produced hydrophobia in an animal. Sameness of form is, therefore, unessential. What is essential is uniformity of function, or the power to produce always the same disease. Pasteur has thus been led by circumstances to approximate his view to that of the other school, which is represented among the botanists by Professor Nageli. They are satisfied that the virus of a disease often goes with the bacteria; that it is difficult, if not impossible, to seperate it from the bacteria; in short, that the bacteria have become "adapted" or intimately changed for the occasion by their contact with the virus. Nageli, who has written a book on the subject, uses the word "adaptation" (*Anpassung*) in its natural history sense; the fungus takes up a certain specific virulence from its environment, a virulence which not merely clings to it externally, but enters intimately into its composition. But the specific virulence is originally foreign to the fungus, and the presence of the fungus may be unessential to an act of infection. That view was maintained in the pathological section of the recent International Medical Congress by Professor Fokker, of Gröningen, who has just published some additional observations and criticisms ("Zur Bakterienfrage," *Virchow's Archiv*, April, 1882). One of his experiments on splenic fever was as follows: With long threads of the *Bacillus anthracis* cultivated in blood-serum, he inoculated a mouse, which died on the fourth day, no bacilli being found in its blood or in any of its tissues. From that mouse thirty other inoculations of mice were made in succession the one from the other; all the mice died in two or three (seldom more) days. Only in the twenty-second mouse of the series were any bacilli found; they were present, not distinguishable from the bacilli of anthrax, in enormous numbers in the liver and spleen, and in the blood. But the twenty-third mouse, inoculated with these same bacilli, died in due course, and showed no rods in its body. When Professor Fokker read Dr. Koch's latest observations on anthrax, he found them so different in purport from his own that he doubted if he could have used the same virus. He accordingly obtained from Dr. Koch a few silk threads impregnated with anthrax spores, and very virulent. Nine mice inoculated therefrom all died in from one to three days; of these two contained numerous rods, four a few rods, and three no rods at all. Professor Fokker, who is evidently a humorist, suggests that perhaps his mice were at fault; that the mice of Holland are not the same for such purposes as the mice of Germany. Further, in certain healthy Dutch mice, he found bacilli in the tissues the same as those of anthrax; but no effect followed their inoculation. In that respect he thinks English mice must be the same as those of his own country, for Lewis found bacilli in the mouse in the state of health, and even got the rods to grow into long threads and to form spores in aqueous humor. He thinks that the argument for the specificity of bacilli drawn from splenic fever and septicæmia moves in a vicious circle. There is a want of definite characters in those diseases—so much so, that some have rested their diagnosis upon the presence or absence of the appropriate bacilli. He hopes, however, in the case of another and more defiinite disease, also reputed to be due to a specific fungus, to be able to show that the specificity of the fungus is a myth (*Aberglaube*).

We have no wish to conceal a strong bias for that hypothesis of pathogenic bacteria, as against the hypothesis that certain species in botany represent the species of disease. That hypothesis is one that takes due account of the seperate existence of animal poisons. While it admits micro-organisms to play a certain part in the propagation of infective diseases, it still leaves to pathology all those old problems of the specific diseases which the medical profession is not unnaturally reluctant to hand over entirely to the botanists. Even if we should have to accept the whole of Dr. Koch's tubercle experiments as without flaw, it is still open to us to say, with Nageli, that the bacilli are common bacilli, which have become adapted by living upon, or in the midst of, specific animal matters. So long as pathologists are left with specific animal matters, their occupation can hardly be said to be gone. How tubercle first began, and how in many cases it still originates *de novo*, are questions that still remain to us. And we venture to think that they will still remain to us, to stir the ardor and to tax the best thought of the profession, when the specific parasite of tubercle has been relegated to that limbo, or fool's paradise, to which the great Puritan poet consigned all "relics, beads, indulgences, dispenses, pardons, bulls"—all short and easy ways of dealing with matters whose more profound aspects must, in the last resort, be fully and fairly faced.—*Medical Times and Gazette.*

CONSTIPATION IN CHILDREN.

Dr. J. Lewis Smith, after writing at length of symptomatic and idiopathic constipation, gives the following advice:

Dietetic Treatment.—If there is reason to suspect the presence of a mechanical obstacle which prevents normal defecation, a careful examination should be made, in order to discover, if possible, its nature and location. Often it is of such a nature that it cannot be removed, but its constipating effects may sometime be, in a measure, obviated. It is important to obtain a daily alvine evacuation at a certain hour, and, by establishing the habit, the need will usually be experienced when that hour arrives each day. The nature of the diet is obviously important, as certain kinds of food are more laxative than others. Chicken-tea, and to a certain extent, beef and mutton tea, are laxative, and, made plainly, are therefore useful in connection with other articles. The various kinds of berries and fruits have also a decidedly stimulating effect on the intestinal surface, and aid in removing constipation. Apples scraped or baked, or apple sauce, may be given to quite young children; and for those that are older, currants, cherries and, among dried fruits, prunes and figs are laxative. Unfermented cider, in its season, which has been found so useful for adults, may also be given to children in moderate quantity, at least to those who have reached the age of two or three years. Glucose given in considerable quantity, is laxative, but it has been found necessary to give the glucose preparation sparingly, or not at all, during the hot months, when infants are so prone to diarrhœa. This laxative effect, however, renders the glucose preparations of the shops very useful in the treatment of habitual constipation of infants, whether we employ the "maltose" or "granulated sugar of malt," or the preparation of Liebig's food. Of four constipated infants in the New York Infant Asylum, to whom Horlick's "sugar of malt" was given, three were relieved. Any of the glucose preparations may be given quite freely to a constipated infant without imparing the digestive function or producing other ill-effect, so long as no more than the normal evacuations are produced. Oatmeal is more laxative than most other kinds of amylaceous food. Made into a gruel and strained, it may be given to the nursing infant, and unstrained, to those who are older. Bread or pudding, from coarsely-ground or unbolted flour or meal, and vegetables which contain saline and fibrous substances, have a stimulating and laxative effect on the surface of the intestines, and therefore are useful for children two or three years and upwards. There can be no doubt that the free use of water in the ingesta materially aids in relieving costiveness. The simple expedient of allowing a liberal use of water, so useful in adult cases, doubtless also has a laxative effect in children, and its judicious use is proper for them. Another important aid in overcoming habitual constipation, is frequent kneading of the abdomen. Cold water bathing, the sudden application of a cloth, wrung out of cold water, to the abdomen, and in certain obstinate cases even the douche may be used to stimulate the muscular coat of the intestines and the abdominal muscles to greater activity.

Therapeutic Measures.—For temporary constipation, and many cases that are habitual, enemata should be employed, since they promply unload that portion of the intestines in which feculent matter is ordinarily retained, while they do not impair the appetite or produce the prostration which so often results from purgatives. For infants, a clyster of one or two ounces usually suffices, administered by means of a gutta-percha or glass syringe. Suppositories may sometimes be usefully employed in place of enemata; cocoa-nut butter, molasses candy, or soap cut in the shape of a pencil, may be used for this purpose. Those who have employed the galvanic current speak favorably of its use. The ordinary purgatives should not be given habitually to relieve a constipated habit. One or two doses for present relief, both in habitual or temporary constipation, is sometimes required, provided that an injection is for any reason not preferred. For this purpose, castor-oil or a few grains of calomel mixed with syrup of rhubarb, the syrup of senna, or the compound liquorice-powder of German Pharmacopœia, may be administered with advantage. Belladonna has not seemed to me to have any decided purgative effect. On the other hand, nux vomica and its active principle, strychnia, are doubtless valuable adjuncts to purgative mixtures from their effect in increasing the action of the muscular fibres. Physicians are not infrequently at a loss what to prescribe for the habitual constipation of nursing infants. I am in the habit of giving oil, sugar, and salts, in the following formula, and usually with the desired laxative effect:

℞. Ol. morrhuæ	2 parts.
Aq. calcis,	
Syr. calcis lactophosph	āā 1 part.

One-quarter, one-third, or one-half teaspoonful may be given with each nursing, or a larger quantity, such as a teaspoonful or more, three times daily. Breast milk with this addition becomes more nearly like colostrum in its laxative properties, while it does not possess those properties of colostrum which disturb the digestive process. I know no agent of a medicinal nature which meets the indication so well as this for infantile constipation. But in my practice I have found it necessary, in not a few instances, to rely mainly on simple enemata for the relief of the constipated habit, till the infants reached the age when a mixed died was proper.—*American Journal of Obstetrics and New England Medical Monthly.*—*Practioner*, XXV, 47.

SALICYLIC ACID TREATMENT CONTRASTED WITH OTHER REMEDIES IN TREATMENT OF ACUTE RHEUMATISM.

The following observations are based upon ninety cases of acute rheumatism, thirty-five (uncomplicated) having been treated by remedies in use before salicylic acid, fifty-five treated by salicylate of soda or ammonia. The circumstances of the cases are alike in all. I compare the two groups, (1) with reference to the number of hours occupied by the temperature in dropping to 99°; (2) with reference to the respective stay in hospital. (1) In thirty-five cases treated by various remedies (uncomplicated), the average number of hours occupied in the temperature falling to 99° was two hundred and forty-eight; the extremes, twelve and one thousand fifty-six hours. The average stay in hospital (twenty-seven cases) was thirty-nine days. (2) The cases treated by salicylate salt must be subdivided into (*a*) forty-three cases in which the remedy acted successfully, and (*b*) twelve in which it failed; but, as in four the failure probably resulted from imperfect administration, the number of failures must be reduced to eight. (*a*) In forty-three successful cases the average number of hours in temperature reaching 99° (thirty-nine cases) was thirty-eight; the extremes were six hours and seventy-two. In sixteen cases it was thirty hours or fewer. The average stay in hospital (thirty-seven cases) was thirty-eight days; the extremes, ten days and one hundred and thirty-eight. The reduction of the local symptoms, particularly of pain and heat, generally kept pace with the decline of temperature, or even anticipated it. In twenty cases it is expressly stated that the relief of pain was effected within twenty-four hours. The same thing probably occured in others. In four it began with the first dose. Hence, whilst the average residence in hospital was hardly lessened by the salicylic acid, the period was passed in comparative immunity from the symptoms of the disease. The duration of residence was determined by relapses, and also by the need of caution in guarding against their occurrence. Of the forty-three cases of successful treatment, a relapse occurred in eleven, a second in four. In all the relapse was brief and speedily controlled. The duration of the salicylate treatment strikingly attests the varied character of the disease. Taking twenty-two cases in which no relapse had occurred, the number of days during which the remedy had been given varied between two and seventeen. In two cases of relapse the salt had been taken for nineteen days. (*b*) In eight cases the remedy failed. They were severe. The average residence in hospital (six cases) was seventy-five days. One death occurred. Four patients were abnormally neurotic.

Accidents.—Of the fifty-five cases in which the salicylate salt was given, vomiting occurred in nine, chiefly after doses exceeding ten grains. Delirium occurred in six; in two it was protracted, but was free from alarming element; in one it was followed by death. Two deaths have occurred whilst the patient was taking the medicine. One was in a boy aged fifteen, of weak intellect, who had been taking ten grains every four hours with great relief, and without any sign of disagreement except slight vomiting for six days. After screaming through the night without apparent cause, he died suddenly in the morning; temperature 99.6°. The lungs were highly œdematous and much congested. The right auricle was gorged with blood. In the second case a man of nervous temperament had taken ten grains every two hours for two days without relief. The dose was then doubled, and two days after was raised to twenty-five grains. The rheumatism was relieved, and the dose was lowered to twelve grains on the same evening, and to eight on the following morning. He had been depressed and delirious through the night. The delirium continued severely through the day, and he died suddenly in the night, the temperature, which had sunk to 100°, rising to 111.5° immediately before death. The right side of the heart was moderately full of dark, tarry blood. Considerable ecchymoses under the serous membranes. Among the forty.three successful cases are five of pericarditis, in all slight, but of brief duration. In three it preceded the remedy; in one it was discovered on the day after commencement; in the fifth case severe, and ultimately fatal, pericarditis set in three days after the rheumatic symptoms had been removed by the salicylate (by James Russell, M. D., F. R. C. P., physician to the Birmingham General Hospital).—*British Medical and Surgical Journal.—Edinburgh Medical and Surgical Journal.*

SIGNIFICANCE OF ALBUMINURIA.

At a meeting of the Cambridge Medical Society Mr. Carter and Dr. Brandbury discussed this subject as follows:

Mr. Carter remarked on the frequent difficulty of satisfactorily ascertaining the precise meaning of albuminuria when unattended by kidney disease. Various albuminoid substances were known to occur in the urine, and besides the several forms of albumen, and the globulins, there also sometimes occurred the several ferments, ptyalin, pepsin, and trypsin. The results of various observers went to prove that out of a given number of cases of albuminuria, only about half would be of renal origin, and the remainder would be found to arise from other conditions. In one class of cases it was to be referred to the nervous system—neurotic albuminuria—and like diabetes it was not infrequently found to follow prolonged mental anxiety. The form in which it occurred in young men, the so-called albuminuria of adolescents, has been regarded as neurotic, but Mr. Carter thought it more probable that it was connected with the sexual function; were it of nervous origin it would occur in young women and girls, which it was seldon known to do. It would seem to depend upon some condition peculiar to males. Albuminuria frequently signified mal-assimilation of the albuminoid elements of the food. If the amyloids of the food failed to be normally assimilated, he suggested that a set of conditions occurred of which diabetes was the type; if the assimilation of the albuminoids were faulty, that other conditions arose which were indicated by albuminuria. The late Dr. Parkes had called attention to the condition here referred to, which he named "food albuminuria." In yet another class of cases albuminuria signified some interference with the circulation of the blood, or some abnormal condition of the blood itself. In those affections of the liver in which it was a symptom, it might depend either on abnormal circulation, in which case serum albumen would appear, or on defective metamorphosis of the albuminoids. when it would almost certainly be due to the presence of some other albuminoid. In morbid pulmonary conditions also, it might indicate either interrupted circulation or defective pulmonary excretion. When it occurred in pregnancy, it appeared that impediment to the venous circulation was commonly the main factor, but there was also an altered quality of the blood itself.

Dr. Bradbury remarked that the subject was one in which he had taken a special interest. With regard to the albuminuria of adolescents, he had in his practice been consulted by many undergraduates affected by it, and had, therefore, unusual opportunities for investigating its cause. In a large porportion of such cases the albumen was only to be found after breakfast, and he had come to the conclusion that it was often due to seminal fluid finding its way into the urine in connection with the act of defecation. There could be no doubt as to the existence of many varieties of albuminuria, but it was difficult to determine the different forms. Often it was an accompaniment of indigestion, and sometimes occurred only after the ingestion of certain articles of food, as in one case which had come under his own care, in which it occurred only after the patient had partaken of boiled beef. He had seen cases also depending on hepatic derangement due to alcohol or other excess, and had noted the disappearance of the albumen when the hepatic enlargement subsided. Albuminuria with high arterial tension meant as a rule commencing Bright's disease; when accompanied by low tension, the probabilities were in favor of there being no renal disease.—*The Lancet.*

EHRLICH'S METHOD OF DETECTING TUBERCULAR BACILLI IN THE SPUTA.

Among the many interesting specimens of micro-organisms shown to a large assemblage at the rooms of the Royal Medical and Chirurgical Society on Tuesday evening last, the 23rd instant, there were two of special interest, showing the bacilli of the tubercle. They had been prepared by Dr. Ehrlich, assistant in the medical clinique, Berlin, according to a new method which promises by the excellence of its results to supercede that of Koch. One was a specimen of bovine tuberculosis, the giant-cells of which were the centre of interest; and the other was a preparation of phthisical sputum. It is chiefly on sputum that Dr. Ehrlich has made his observations, but his method is available also for sections. We take the following interesting practical details from the reports (*Deutsche Medicinische Wochenschrift*, May 6) of a communication made by him on May 1 to the medical association, Berlin (*Verein fur innere Medicin*). He extracts, with a pair of needles, a small particle of the sputum, and presses it between two cover-glasses. He then separates the cover-glasses, and gets a thin layer of sputum on each. The cover-glasses are allowed to dry in the air, and, in order to fix the albumen, they are either kept for an hour at a temperature of 100° centigrade to 110° centigrade, or they are passed two or three times through the flame of a Bunsen's burner. The coloring fluid is then prepared. Water is shaken up with an excess of anilin oil, and filtered through moistened filter-paper. To the clear fluid so obtained an alcoholic solution of methyl-violet or of fuchsin is added, drop by drop, until the fluid becomes opalescent. The cover-glasses, coated with the dried sputum, are then set swimming in this opalescent fluid, and in fifteen or thirty minutes they will have colored an intense blue or red, according as the violet or fuchsin had been used. Dr. Ehrlich now departs further from Koch's procedure; he does not color the substance in general with vesuvin, but he decolorises it with strong acids, the bacilli retaining the blue color. One volume of officinal nitric acid is mixed with two parts of water, and the blue-stained preparations are put into this strong acid. In the course of a few seconds the color fades, a yellowish cloud passes across the preparation, and leaves it white. Every thing in the preparation of sputum is now decolorised, except the bacilli, which are intensely blue. But the technical difficulties of seeing them are still considerable, and it is further desirable to color the ground substance yellow in the case of a methyl-violet preparation, and blue in the case of a fuchsin preparation. In the specimen of phthisical sputum prepared by Dr. Ehrlich as above, and exhibited on Tuesday last, the bacilli were very numerous, very uniform in size and form, and very distinct, the magnifying power being about nine hundred diameters and the illumination strong. Dr. Ehrlich has examined the sputa from twenty-six pronounced cases of phthisis, and he has found bacilli in them all, and most abundantly in acute cases. In most cases the bacilli are found in the very first specimen made, and in the very first field of the microscope. The entire process of drying and coloring may be done in less than an hour. The bacilli were not found in sputa other than phthisical. A friend sent him a specimen purporting to be phthisical sputum, in which Dr. Ehrlich could find no bacilli; and, on inquiry, it proved to have come from a case of empyema with perforation of the lung.—*Medical Times and Gazette.*

ANÆSTHETICS MEDICO-LEGALLY CONSIDERED.

D. J. G. Johnson (*Medico-Legal Society's Bulletin*) in an excellent paper makes the following points worthy of attention:

(1) Anæsthetics do stimulate the sexual functions; the ano-genital region is the last to give up its sensitiveness. Charges made by females under the influence of an anæsthethic should be received as the testimony of an insane person is. It cannot be rejected; but the *corpus delicti aliunde* rule should be insisted

on. Dentists or surgeons who do not protect themselves by having a third person present do not merit much sympathy.

(2) Death from administration of chloroform after a felonious assault, unless the wounding was an inevitably fatal one, reduces the crime of the prisoner from murder to a felonious assault.

(3) The surgeon has no right to use chloroform to detect crime against the will of the criminal.

(4) The army surgeon has the right to use chloroform to detect malingerers.

(5) The medical expert, notwithstanding he is sent by order of the court, has no right to administer an anæsthetic against the wish of the plaintiff in a personal damage suit, to detect fraud.

(6) Gross violations of the well-known rules of administering anæsthetics, life being lost thereby, will subject the violator to a trial on the charge of manslaughter.

(7) A surgeon allowing an untrained medical student to adminster anæsthetics, and life being thereby lost, will subject the surgeon himself to a suit for damages. What he does through his agent he does himself.

(8) The physician who administers an anæsthetic should attend to that part of the work and nothing else. He should have carefully examined the heart and lungs beforehand. He should have the patient in the reclining position, with his clothes loose, so as not to interfere with respiration; should have his rat-tooth forceps, nitrite of amyl, and ammonia, and know their use, and when to use them and artificial respiration.

(9) In operations on the ano-genital region and the evulsion of the toe nail, complete loss of sensation in these parts should never be allowed, and no operation on these parts at all should be had under an anæsthetic unless by the approval of a full consultation, who have a knowledge of the dangers.

(10) Chloroform cannot be administered to persons who are asleep without waking them. Experts themselves, with the utmost care, fail more often than they succeed in chloroforming adults in their sleep.—*Detroit Lancet.*

ON A FORM OF INDIGESTION OCCURRING IN INFANTS.

Dr. Arthur H. M. Hassall draws attention to a form of indigestion which is of very common occurrence in infants during the period of lactation, namely, that which arises from inability on the part of the infant to digest properly the casein of milk. In a case which was recently under the care of the author, the child, aged four months, was in the habit of throwing up after nearly every meal a large quantity of coagulated casein, and the same was passed by stool in still greater amount. The stools were almost colorless, with occasional patches of yellow or green; they were frequent, often very offensive, and there were constant attacks of distressing flatulent colic. The child was, however, fairly well nourished, and its general health suffered much less than might have been expected. The child, who had hitherto been fed exclusively by the mother's milk, was now ordered to be fed on the milk of a single selected cow diluted with water: this was given for some time, but with still worse results, as in addition to the previous symptoms diarrhœa set in. Various remedies were employed, but without anything more than slight benefit, as antacids, carminatives, anodynes, and lastly astringents. Ultimately, when the child was between five and six months old, a mixture of malt and wheaten flour, sugar, milk and water, properly mixed and prepared, was given with the most satisfactory results, the looseness and colic ceasing, the motions becoming soft in consistence, of a natural and uniform yellow color, and quite inoffensive. Dr. Hassall considers that this change was due to a change in the physical condition of the casein, affected by its admixture with the starchy matter contained in the food, whereby the casein was reduced to such minute particles as readily to allow of the solvent action of the gastric juice.—*The Lancet*, December 3, 1881.—*Practitioner*.

PAPAW IN THE TREATMENT OF CHRONIC ECZEMA.

The so-called papaine, the partially purified extract obtained from the papaw tree, was recommended at the International Congress last year as a solvent of diphtheritic false membrane. I have lately been using it as a local application in old-standing cases of chronic eczema, more especially of the palm. As it is used in the West Indies to soften tough meat, I thought it might be of service in cases, the chief feature of which is thickening and hypertrophy.

It would occupy too much space to discuss the method of action here; it will be sufficient to say that it is supposed to digest certain substances by means of a special ferment. Roughly speaking, it may be said to resemble pancreatine. I have had such marked success with it that I recommend it to the profession as a remedy worthy of trial in cases which often resist all the ordinary modes of treatment.

The following brief notes of a case recently treated may be of interest. Mrs. R. was sent to me by Dr. J. E. Pollock, last June. She was suffering from severe chronic eczema of both palms, which completely resisted the external use of tar, and mercury ointments of various kinds and strengths, as well as a six months' course of arsenic, and was only slightly relieved by prolonged soaking. On April 18, I ordered twelve grains of papaine and five grains of powdered borax, in two drams of distilled water, to be painted on the parts twice daily. When seen on May 9, the hard horny masses of heaped-up epidermis, which were present on April 18, had entirely disappeared from the skin, covering the heads of the metacarpal bones, leaving its texture quite normal. The fissures of the central portion of the palms had quite healed, and the cuticle was softened and pliable. though still showing signs of roughness.

The patient stated that the application produced only a slight pricking and tingling sensation. No internal remedies were given. The borax was added with the view of checking fermentation, and supplying the alkali required in order to obtain the full action of the drug. In some other cases of chronic eczema and psoriasis, the same benefit has followed in as short a time as in the case above mentioned.—Malcolm Morris, in *British Medical Journal.*

NOTES ON HYOSCYAMINE.

BY KENNETH W. MILLICAN, B. A.. L. R. C. P., KINETON, WARWICKSHIRE.

Hyoscyamine is a drug which apparently possesses very valuable therapeutic properties, and like many other of the alkaloids, requires only to be known to be appreciated. The first case in which I employed it was one of hepatic colic. Feeling convinced from its combined anodyne and anti-spasmodic properties that good results might be anticipated from its administration, I prescribed it in doses of 1-120 grain, every half hour until relief was obtained. The patient, a woman who had several times previously passed gall-stones, was greatly relieved after three doses, and the administration was kept up at intervals of an hour until after the spasm ceased. I have several times used it in abdominal colic, in the same doses frequently repeated, and on all occasions with the best results; and it has also proved the most effectual remedy in relieving the painful distress of spasmodic asthma. Indeed, in this latter complaint, my patient, a long-standing martyr to the affection, admits that it has given him more ease than any other drug he has taken, and has completely displaced chlorodyne in his estimation. But, perhaps, the most valuable case of its successful administration is the most recent of all. The patient was a young woman from service who, when I first saw her, was in the most intense abdominal pain. There was considerable diffused peritonitis, and for some time the cause was uncertain. I was at first disposed to suspect from the history, a pyæmic origin, but ultimately concluded that the peritonitis resulted from collections of fæces at the hepatic and splenic flexures of the colon. Morphia was administed both subcutaneously and by the mouth, and attempts were made to clear the bowels by bland enemata, but all to no avail. Having pushed the morphia as far as I dared, I was obliged to with-hold its further administration, for, though the pupil gave indications of its action, the pain did not seem to be in the least abated by it. After some time I determined to employ hyoscyamine, which I did in doses of one.fortieth of a grain every two hours. At first it seemed slightly to increase the pain, but shortly after its physiological action upon the fauces and pupil became manifest the pain began gradually to subside, and a fairly fluid evacuation of the bowels ensued. From that time the patient began to mend, and is now progressing fairly well. When I first used hyoscyamine I employed the granules manufactured by M. Chanteaud, the eminent French pharmacien. But recently I have used a solution of the alkaloid (Merck's crystallised) in rectified spirits of wine, of the strength of one grain in two drams. One minim of this solution contains 1-120 grain of the drug, which can either be administered in a mixture with a little dill water, or may be used to form lozenges with sugar of milk.—*The Lancet.*

HUNGER AND APPETITE.

M. Leven remarks, in a paper read recently to the Société de Biologie, that hunger and appetite are the two sensations which have been studied by physiologists, but of which the analysis can not be made by the experimental school. These two terms are employed indiscriminately one for the other, but they have different significations. Hunger and appetite can only be studied in the human subject, either in a healthy condition or in a state of disease. Pure hunger can only be observed in new-born children during the three or four first months of life. Impelled by the instinct of food, they take the breast of the nurse, draw from it a quantity of milk sufficient to satisfy this instinct, and go to sleep, until the sensation of hunger awakens them, and they again take the breast. Hunger in infants is a simple sensation that milk alone can satisfy. If any other food be added to this repast, the weak organism of the infant is put into jeopardy. Four or five months should be allowed to pass until the strength of the child is increased; the organs will then be stronger, and eggs and broth, and farinaceous foods, may be added without risk. At this period of existence the intelligence of the child will show itself; it will accept and refuse on a certain day such and such of these foods, after having consulted the nerves of taste and smell. Its brain becomes active, and only obeys the impressions which are imparted to it by certain substances; so long as it alone drank milk the brain was passive, impelled only by the instinct of hunger; when the nerves of taste and smell intervened, it was determined by appetite. We must, therefore, distinguish between hunger, which only has its origin in a nerve, and the sensation of appetite, which is the result of the sensations provoked by the nerves of hunger, smell and taste.

Whenever we take a meal when in a healthy condition, these three groups of nerves act simultaneously. The appetite may remain intact in dyspepsia; but, as a rule, it decreases or disappears entirely. The nerves are simultaneously disturbed; food has a disagreeable smell and taste, if taken without hunger. In a great number of cases the functional disassociation of these nerves occurs, and hunger is observed modified alone, without the nerves of taste or smell being touched; or the nerves of taste alone are attacked, or even the nerves of smell are deranged, when the nerves of hunger and of taste have escaped the influence of dyspepsia.

These different functional disorders may be characterized as follows: In certain patients, so soon as a mouthful of food taken with pleasure and welcomed by the nerves of taste and smell, is introduced into the stomach, hunger is calmed, and the patient dares no longer to continue the repast; or, if so, he has sensations of nausea. In other cases, the hunger incessantly increases, and is as acute when the meal is finished as before it is commenced. This is what is termed bulimia. Nervous and dyspeptic individuals, who feel the necessity of eating, no longer find the normal taste in the food, or else they have a craving for exciting or extraordinary substances, such as vinegar, chalk, and charcoal, and would with pleasure fill the stomach with these materials. Pregnant women show types of these derangements of the taste, in dyspepsia brought on by pregnancy. Finally, there is another category of dyspeptics in whom the nerves of smell only are deranged in action. M. Leven has treated a patient forty years of age, suffering from dilatation of the stomach, who was hungry, and took meat with pleasure; but for twelve hours it left with him a sensation of putrefaction, which only disappeared when the stomach had recovered its natural condition. The seats of these sensations are in the nerves of the tongue and of the nose. The seat of hunger is, however, a point which is not yet determined. Sédillot and Longet have cut the pneumogastric nerves in dogs, and have seen them eat three or four days after the operation; but they have never been able to cut the great sympathetic. Is it not, therefore, that nerve which, in the absence of the pneumogastric nerves, transmits the sensation to the stomach and to the brain?

Longet and Schiff have maintained that hunger is not seated in the stomach, but in the whole organism; that we hunger throughout all our tissues, in our muscles, and in our nerves; and that a true equation may be established between the degree of hunger and the losses of the organism. It is easy to object to this that some people never feel hungry, and that the greatest wasting of the organism occurs in the febrile condition when there is no hunger.

Schiff has made experiments to show that hunger is not localized to the stomach. He took fasting starving dogs, which howled incessantly. He injected peptones into their veins; the dogs left off howling. All physiologists have, however, observed that, if water be injected into the veins of fasting dogs, they leave off howling, and become quiet, so that nothing can be deduced from these experiments. That, however, which appears certain is, that the sensation of hunger is localized in the stomach, and transmitted to the brain by both the sympathetic and the pneumogastric nerves. In order that hunger should be felt, it is necessary that the mucous membrane of the stomach should not be congested, and that it should be in a healthy condition.

The practical deduction to be drawn from these data is that hunger cannot be restored by medicine, but by an alimentary regimen, by making the number of meals of solid food in proportion to the congested condition of the mucous membrane. Hunger cannot be restored by the use of quinine wine, iron, or bitter preparations, but by treating dyspepsia in a rational way. —*British Medical Journal.*

THE LUXURY OF BEING HUMBUGGED.

That the present is an age of humbuggery is a saying which has become too trite to require repetition. When expostulated with, quacks and charlatans reply, "people love to be humbugged, and will be, and I might as well reap the harvest as any one else." Unfortunately there is too much truth in the assertion that people love to be humbugged. Never in the history of the world was there so good a chance to detect humbuggery and charlatanism, as the means of detection were never so perfect as now, so there is less excuse for being deceived than there might have been a century or two ago, yet never did quacks and charlatans abound and flourish as at the present time.

Probably one of the most successful of recent frauds is that known as "Compound Oxygen." We have so often met persons who had spent large sums of money for this worthless stuff without being in the slightest degree benefited, that we have felt it to be a duty we owed our fellow men to investigate the matter thoroughly and publish the results. We accordingly obtained fresh samples of "Compound Oxygen" and "Oxygen Aquae" which had just been received from the manufactures in Philadelphia, and sent them for analysis to Professor A. B. Prescott, M. D., professor of chemistry in the University of Michigan, which possesses one of the largest and most complete chemical laboratories in the country and probably in the world. After subjecting the compound oxygen, so-called, to a careful analysis, Professor Prescott reports to us as follows:

"A solution of nitrate of ammonium and nitrate of lead in water, in not far from equal proportions, and together forming just three per cent of the liquid."

It should be recollected that this solution is to be used by inhalation, a teaspoonful being added to a small quantity of warm water, through which air is drawn by means of a glass tube. Neither of the substances contained in the solution are volatile at the temperature at which the solution is used, so that it is impossible for any medicinal property whatever to be imparted by this boasted remedy, except what comes from the warm water, which is itself very healing when used in this way, as we have demonstrated in hundreds of cases. Professor Prescott also tested the vapor given off from the pure solution when it was boiled, but found nothing more than the vapor of water.

The "Compound Oxygen" is usually accompanied by what the manufacturers are pleased to call "Oxygen Aquae," which they recommend their patients to take as an aid to digestion. The analysis of this showed it to contain nothing but water. The most careful tests revealed nothing else.

Now we have done our duty. If any of our readers wish to pay sixteen dollars a pint for water, they are at liberty to do so. There are some people who enjoy the luxury of being humbugged to such a degree that we have no doubt some will be induced to squander a few of their hard-earned dollars by seeing this exposure of this wretched fraud.—*Good Health.*

THE USE OF IODOFORM IN TREATMENT OF SOFT SORES.

In the *British Medical Journal*, 11th March, 1882, Mr. W. Whitehead recommends the following method of applying iodoform, so as to obviate its objectionable smell without sacrificing its therapeutic advantages:

He first carefully cleans and dries the sores with little pledgets of bibulous paper, and then, by means of a camel-hair pencil, applies freely over the surface of the sores a solution of iodoform in ether. The ether evaporates, leaving the iodoform in an impalpable powder over the sores. When perfectly dry, each sore is given a coating of collodion, which is allowed to overlap about a quarter of an inch the area of each sore. Before the collodion has had time to dry, a pinch of absorbent cotton-wool is placed on each patch as a protection. Gold-beater's skin may be substituted for the colodion. The solution he uses is one part of iodoform to two of ether, and in his Lock Hospital practice, where time and economy are of moment, he has the colodion and iodoform mixed together, the formula being, iodoform one part, ether two parts, colodion to ten parts.—*Edinburgh Medical and Surgical Journal.*

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ORIGINAL ARTICLES.

HISTORY OF TWO CASES OF MAL-PRESENTATION.*

(1) PRESENTATION OF HEAD AND BUTTOCK; (2) LEG AND HEAD PRESENTATION, WITH SPONTANEOUS EVOLUTION; ALSO SOME SUGGESTIONS AS TO THE CAUSES OF MAL-PRESENTATIONS, AND SOME ACCIDENTS OF PREGNANCY AND PARTURITION.

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Case I.—Mrs. A., living on Grosse Isle, a young woman of American parentage, was taken in labor of her second child during night of July 27. Her first labor was complicated by shoulder presentation of child, of which she was delivered by version, Dr. W. Carleton, of Trenton, attending her. Dr. C. was again sent for on the morning of July 28. The patient had been anxious about herself for many weeks, expressing her belief that something was wrong about the position of the child, that it did not lie right. Dr. C. was in constant attendance all day, the labor pains being constant and regular, but not until evening was the child low enough, or the os sufficiently dilated for him to learn anything about the presentation. A head presentation was then made out. During the evening, the os having become sufficiently dilated, the head not descending, and the woman becoming exhausted from the long continuance of vigorous but ineffectual pains, in fact approaching the condition of powerless labor, the doctor determined to apply the forceps. The blades were applied without difficulty, but invariably slipped on traction in whatever position the handle was held. Dr. C. now sent for Dr. F. P. Anderson, formerly of Cincinnati, but now retired and living on Grosse Isle, for his advice and assistance. He confirmed the diagnosis of Dr. C., but likewise failed with the forceps as had been the case before. At 1 A. M., 29th, a telegram was sent for me. On account of the distance, the crossing of the river, and unpreventable delays, it was 5 o'clock A. M. before I reached the patient, who was then in bad state of exhaustion and powerless labor. I was informed of the history and facts of the case. Examination showed certainly the head in the pelvis, though high, and os quite dilated; and also what I could only suppose to be a quite voluminous caput succedaneum, which was not to be wondered at considering the length and severity of the labor. I determined first to renew the attempt to deliver by the forceps. The blades were easily applied, but, as before, slipped on traction. I removed them, passed up my hand to find the cause of the difficulty. I satisfied myself that the soft part was in reality one of the buttocks of a child, though by what sort of fœtal gymnastics the head and buttock of the same child could become wedged down in the pelvis was then beyond my conceit. Passing my hand still further I found an arm, and in a moment more grasped a leg, which I found was the leg of the presenting buttock. It was brought down without difficulty, the head receding, turning quickly accomplished, and the child brought into the world as far as the head, when there being some delay, the child was lifted up towards the woman's abdomen and the forceps applied to the head and it delivered. There could not much more than twenty minutes have elapsed from the time of my arrival until delivery. The child was dead. The normal condition and relation of the parts in an ordinary breech presentation, regardless of the presence of a head, were here entirely wanting. While one buttock was forced down with the head the other was caught on the rim of the pelvis, out of reach of the examining finger, as were also the anus and privates. It was also now obvious why the blades could not hold, grasping between them the head and buttock, over which latter the blade so readily slipped on traction. The child was dead, and on laying it down and putting it in the unnatural position in which it had presented, maintained that position, as was remarked by all in attendance. The head was much flattened laterally, with bruised discoloration of the integuments of the side opposed to the hip (the left), as was also the corresponding side of the hip. The manner in which the child maintained this unnatural position after its birth would seem to indicate a longer continuance of it than merely from the commencement of labor; also the mother's often expressed belief beforehand that the child did not lie right would confirm this. The mother died on third or fourth day, never having rightly rallied from depressed condition.

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I have not been able to find a record of a precisely similar case, though Churchill refers to one described by Dr. Dyce very like it. In describing the process of "spontaneous evolution," so called by Dr. Denman, he states that the name of "spontaneous expulsion" given by Dr. Douglass is more appropriate than "spontaneous evolution," and adds: "It sometimes happens in arm presentations, when the child is small and the pelvis large, and especially with premature births, that the child is expelled double. Dr. Dyce describes a case in which the shoulders and buttocks were brought down nearly together, the arch formed by the body looking downwards."

In Dr. Dyce's case evidently the head had caught on the rim of the pelvis while the shoulder was driven still further down with both buttocks, while in the case here reported the head was driven into the pelvis, but with only the left buttock, and thus they were brought in closest apposition, which could not have been the case with shoulder and buttock, the head meanwhile resting on the brim.

Dr. Churchill goes on to say: "I have seen the reverse more than once, and I think it is the more common, that is, when the body doubled is protruded, the extremities back and head being above."

I believe that not only in these rare cases where the body doubled is expelled, the extremities and head will be upwards, but back downwards, and that in those alone could spontaneous expulsion be accomplished in accordance with the process described and represented by him, and that in such cases spontaneous evolution would be an impossibility. But in the other form, the extremities and head looking downwards and back upwards, the arch looking downwards, spontaneous evolution might more readily occur by reason of an extremity, a head, or buttock being forced onward somewhat in advance, when the other might recede. One such case I have seen which I shall presently describe. But when no such spontaneous evolution occurs, and such cases must be very rare, the delivery can in any event be much more easily accomplished than in the other form, by reason of the greater facility of reaching and bringing down the leg."

Case II.—Foot and Head Presenting; Delivery by Spontaneous Evolution.—I was called at 7:30 A. M. to see Mrs. B., in her sixth labor. All her previous and subsequent labors, natural. Patient states that her condition has been one of constant discomfort for several months, different from what she has ever been before in carrying a child, and that for the past twenty-four hours, though without labor pains, there is a continuous feeling as though the child was just ready to come away. The labor pains were now beginning to come on, for which reason she had sent for me. Examination showed right leg of child protruding through the os uteri, and occupying the vagina, tightly constricted by the os. As the pains were coming on rapidly, and anticipating no material difficulty from a footling presentation, I awaited further dilation of the os. In half an hour it was well dilated, but no further descent of the leg. I now passed up my hand to find the other leg, or see if there might be an arm or shoulder impeding descent, when I felt some part descending behind the leg, the leg at the same time receding, and with another quickly succeeding pain the head emerged. The child was quite small, weighing but five pounds. The right foot and leg of the child were swollen and blue from the obstructed circulation by the constringing os uteri. At a point on the leg a little below the knee there was a small eschar of half an inch superficial diameter, and on the left side of the head a depression corresponding to the impress of the leg, and at its bottom another small eschar. The head must have been in occipito-sacral position, with right leg across it. The position must have been maintained some considerable time to have caused destruction of superficial tissues by compression and obstruction of circulation. The woman had received a heavy fall about three months before, from which she dated the beginning of her uncomfortable feeelings. The swelling disappeared from the child's leg in a few days, and the mother had a good and speedy recovery, as usual after her labors.

In both these cases the presumption is that the unnatural position of the child had existed for a considerable time before labor set in. In the case of the first patient, there had been a previous labor complicated with presentation of the extremities. The fact is well known of the repeated occurrence of this complication in some women, indicating something more than a mere accident. I have myself delivered one woman by version for shoulder presentations in three successive labors. These cases would come under the third of Simpson's causes for malposition and mal-presentations, namely: "A cause altering the normal shape of the fœtus or contained body, or cause altering the normal shape of the uterus or containing body, etc., etc." The second case was the only one of abnormal presentation or complicated labor in a mother of a large family. This would, from its history, come under the fourth of Simpson, namely: "The result of causes physically displacing either the whole fœtus or its presenting part during the latter months of gestation or at the commencement of labor."

The examination of these cases is suggestive of interesting inquiries in various directions. As statistics show that these abnormal positions and presentations occur so generally amongst the hard-working class of women, and those exposed to accidents and severe muscular efforts; are those causes altering the normal shape of the uterus more than predisposing causes, and is not the exciting cause the same in fact as Simpson's fourth, namely: The result of causes physically displacing the fœtus or its presenting part, as for instance, falls, jars, blows, lifting, pressure against the abdomen, etc.? And again, another inquiry is suggested as to the comparative ratio of abnormal positions and presentations among brute animals, as the cow and the mare, and as to what inference may be drawn from the comparative physiology of gestation and parturition as regards the influence of the upright position of the human species in exposing the female to various accidents of pregnancy. Comparative physiology has as yet by no means equally with comparative anatomy contributed to the advancement of the knowledge of biology. Haeckel, in his "Evolution of Man," writing of course from the standpoint of evolution, claims "that about all that has been contributed to that subject (evolution) has been done by comparative anatomy, that is the advancement of the knowledge of morphology or the science of forms, and that comparative physiology has scarcely done anything towards the advancement of the knowledge of functions." He says: "Our knowledge of the evolution of functions is as yet far from being so advanced as our knowledge of the evolution of forms, and that physiology has entirely neglected to apply the comparative method by which morphology has gained its greatest results, and still works as little at the functions of evolution as at the evolution of functions. It will therefore," he says, "be the task of a future physiogeny to grasp the history of the evolution of the functions with the same earnestness and with the same success with which morphogeny has long ago undertaken the study of the history of the evolution of forms."

The influence of gravitation and atmospheric pressure upon the uterus and its contents is recognized and made use of in gynecology and obstetric operations. By putting the woman in the prone instead of the supine position, with pelvis raised, the use of these forces is gained in putting back the uterus and its contents from the pelvic outlet. To this we sometimes resort in version, and especially in reducing prolapsus of the funis. Can we be blind to the fact that this force of gravity to which the uterine contents of the woman are exposed differently from dumb animals, forcing the uterus towards the pelvic outlet and its contents towards its mouth throughout at least one-half her time, and that when exposed to the additional injurious effects of violence, as of falls, blows, jars, etc., may be strongly operative for evil? Indeed we do appreciate the effects of violent disturbance or shocks upon the fœtus in the later stages of pregnancy. But the extent to which these causes may operate together with the influence of gravitation in the very earliest stages of gestation I think is not fully appreciated. We may perhaps justly appreciate the effects of violence in causing displacements of the fœtus and mal-positions and mal-presentations in a womb of considerable parturient development, and with a fœtus surrounded by a voluminous sack of amniotic fluid. But may not the place of lodgment and attachment of an impregnated ovum falling into the folds of the decidua be affected by even a slight violence at or immediately after the lodgment before adhesions have become strong? In what other way can we so well explain the cause of placenta prævia? Nature, provident for the safety of the germ, and as generous in her provision for every contingency, so also economical of her resources, never confining herself to accomplish but a single purpose in her provisions, has provided for the safety of the impregnated ovum by designing that it shall fall from the fallopian tube into the already prepared folds of the soft decidual membrane lining the uterus and in the normal uterus lying in contact to receive and retain the expected guest. But in the case of a large uterine cavity in a woman the subject of many pregnancies, of children born at full term or the subject of frequently repeated abortions, a sub-involuted womb or a large and patulous womb from any cause, then may it not happen that the ovum will be arrested and attached only at its lower segments? If this be so, then have we a sufficient explanation of the frequent occurrence of abortions otherwise unexplainable. A patulous womb occasions a misattached ovum at its lower circle. This wrong attachment at or near the neck operates in the process of growth and expansion to produce expulsion, by partial separation and hemorrhage or otherwise. Reimpregnation follows with similar sequences, and thus the abortive habit becomes established and confirmed. The vicious cycle is completed. Repeated abortions establish a condition of sub-involution and patency of the uterus. This condition of the uterus establishes a hindrance to the growth and development of the fœtus. If the force of gravity operative in the upright position of the human female, or this combined with violence, may increase the dangers to mother and embryo by occasioning misplaced lodgment and attachment of the ovum, so also may it be operative upon the developing embryo at any stage, and be the cause of mal-positions of this as well as of the unimpregnated uterus. How else than by changes from the erect to the horizontal position, and to changes in the latter, are we to account for loops and knots in the fœtal cord, and possibly the circumvolutions of the cord about the fœtus, a frequent cause of retarded and difficult labors, and of various accidents?

May we not see, then, that the erect position of the human race which even among the rudest savages has given man dominion over the beasts of the field, and enabled the seed of woman to bruise the serpent's head, has also multiplied her sorrows and conceptions, as the English rendering has it, but as expressed in the Greek, "*Τὰς λύπας σοῦ καὶ τον στεναγμόν*,"

—and caused her to "bring forth children in sorrow,"* by multiplying the hazards and difficulties, the complications and accidents of pregnancy and parturition.

THE INSANITY OF MASTURBATION.†

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A careful study of the symptomatology of mental disease develops the fact that cases of insanity having for their origin a like cause possess distinctive characteristics in common. This becomes the more clearly apparent in proportion as our investigation is more painstaking, and the scrutiny of symptoms more minute. The exciting causes of disease, the surroundings which favor its development, the age at which it makes its appearance, the general condition and circumstances of the patient, are believed not only to determine in a general way the form of disease, but also what its particular manifestations are to be, the character of delusions, and most unquestionably the curability or hopelessness of the malady.

Thus we have the insanity of pubescence, the insanity of adolescence, the insanity of the climacteric period, insanity from constitutional disease, and various other forms, each one presenting definite traits and diagnostic features. This association of cases in accordance with their natural history constitutes the clinical grouping of mental disease, and through it the alienist is furnished a useful and important classification.

Of the different types of insanity, none presents more uniform and distinctive symptoms than the one under consideration. The association of the habit of masturbation with insanity is shown by many striking signs which, if noticed at all, are frequently ascribed by the friends of patients to causes other than the true one.

Thus a mother observes that her son is growing quieter, more reserved, and low spirited, and that his health seems failing. He is indisposed to go out, and remains much by himself; is disinclined to see people, takes little interest in ordinary matters, and may be found deeply absorbed in reading, or lost in thought. Frequently it is the bible which engrosses his attention, or a religious experience is expressed, and it is thought that a spiritual awakening is taking place. As he grows pale, nervous, and languid, his malady is thought to be due to over-study, and his condition enlists the sympathy and warmest solicitude of others. As this deep reserve, however, is in many instances but an exaggeration of natural characteristics, the apprehension of friends as to any mental failure in the patient are not excited. It is some sudden, rash, impulsive act, which leads them to suspect that something is wrong with his head, and even then they are loth to admit the existence of any serious mental disorder.

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*Genesis 3: xvi.

†Read before the State Medical Society at its annual meeting in Ypsilanti in 1882.

It is strange how often it is that the very flower of the family is stricken in this manner. "He was always a thoughtful, studious, amiable boy," his friends say; "was not rough like his companions, took very little interest in their sports, and was always devoted to his books." W. C., a boy of twenty-two, who was arrested for an attempt to shoot his father, but released from custody on the ground of insanity, and placed in the asylum, was thus described by his mother: "He was brought up in Sabbath school and day school more or less until nineteen years of age; was always very fond of reading, and but for the unkindness of his father at the age of fourteen or fifteen would have learned the printers' trade or telegraphing, and to-day have ranked among men as he wanted to, but no encouragement was given him in that direction, and here is the climax. He has seemed very reflective of late, and I have thought religion had something to do with his thoughts." She adds, also, that she hopes he will be led to salvation. Notwithstanding the high tribute from his mother, this patient's characteristics were found to be of the most unpleasant kind. He was irritable, vain, self-conceited, aggressive, and very belligerent. His suspicion was so great that at first he would not reply to any question, and resented attempts at familiarity. Two days after his admission he made assaults upon some feeble patients, and required to be removed from a quiet to a disturbed hall. He would walk about the hall with his hands raised, and making a strange noise, as if engaged in some religious exercise. He had hallucinations of hearing, was unappreciative of his condition, and was often rambling and incoherent in his conversation. He was obstinate and willful, and sought opportunities to annoy others. He addressed his fellow patients in a harsh, disagreeable tone, and elbowed the feebler ones about. At night he would disturb the hall by jumping in and out of bed, and whistling at the window. On one occasion while out walking, he clambered into a passing wagon, grabbed the lines, whipped up the horses, and drove some distance before the owner of the team could regain control of them. On another occasion he required removal from one hall to another, for committing an act of great indecency in a room. Full three months after admission, after having been composed and self-controlled for quite a long period, he made a brutal and violent assault upon an attendant while his back was turned. After being under treatment six months, this patient was removed at the request of his mother, who always felt that his detention in an asylum was a great hardship and injustice.

N. E., who was brought to the asylum after having procured a knife for the purpose of killing his mother, whom he thought was a devil, was always spoken of as a pattern of propriety, both by her and by his sisters. He was said to be genial, amiable, industrious, and successful in his undertakings. This boy had periods of great irritability, was suspicious, vain, very self-conceited, and inclined to hold himself aloof from others. He entertained religious delusions, and believed that the knife he had sharpened to kill his mother with was predestined for that purpose.

Another patient who had made repeated assaults upon his father and mother, and shown great irritability if opposed, was, previous to his attack, "always retiring in tastes and unlike other boys."

A male, aged fourteen, who inherited a strong predisposition to mental disease, and was admitted to the asylum suffering from acute mania, was spoken of as a bright, studious, good boy, of kind disposition and pleasant manners, and free from bad habits. This patient, during convalescence, ascribed his entire trouble to vicious habits.

It is a most striking fact that those patients as a rule who suffer from mental disease in consequence of this vicious indulgence, possess an inherited tendency to nervous disorders. It would seem that the habit of masturbation operated toward the overthrow of the intellect chiefly in those cases where the nervous constitution is in some way defective, or abnormally susceptible to this and other exciting causes of insanity. As illustrative of this point, an analysis of cases may be of interest. Of the thirty-five patients admitted to the Eastern Michigan Asylum, since the first day of October, 1880, in whom masturbation was the undoubted cause of insanity, twenty-seven are found to inherit a predisposition to nervous or mental disease; in three cases such tendency cannot be positively stated, though the presumption is that it exists; five only are exempt from any hereditary taint as far as known.

Melancholia and dementia are the most frequent types of disease from this cause which are seen in asylums. Symptoms are continually changing however, and transitions from one state to another constantly occur. Thus in many cases, brief periods of mild excitement alternate with those of comparative composure, the length of the interval of quiet being dependent to a great extent upon the habits of the patient.

The tendency of all mental disease from this cause is toward irritable dementia, and perfect recovery is exceptional, this depending so largely as it does upon the ability of the patient to restrain morbid tendencies and correct vicious habits. Self-control is in many cases so nearly destroyed by the degrading vice that such coöperation is impracticable.

The excitement observed in connection with this form of insanity is of a purposeless character; is characterized by mischievous acts, erotic impulses, wanton deeds of violence, and destructive propensities. These patients mark the walls, destroy their clothing, are untidy in habits, lawless and excessively difficult to look after. In some instances mania assumes a chronic form, and periods of immunity from excitement are brief and imperfect.

The opposite condition, that of melancholia, is characterized by hallucinations, emotional disturbance, the existence of religious delusions, and a disposition to pray and confess sin. It is difficult to say just what the relation is between the abuse of the sexual organs and the development of the religious (?) nature, but this connection has been observed by all who are familiar with mental disease. Patients of this class read the scriptures diligently, talk on spiritual subjects, are given to praying and exhorting, and have much to say on the subject of morality. They deeply deplore their past sins, and allude to errors of youth, but point to the spotless purity of their present lives, and are strong in professions of rectitude. It has been held that these religious delusions originate in the fear of punishment for violation of nature's laws. (Skae mentions the prevalence of the belief that the unpardonable sin has been committed). For relief from this burden of guilt, consolation is sought in scripture reading and religious exercises, and the morbid fervor thus engendered eventually leads the patient to the opposite extreme. He believes himself highly moral, and superior to his associates and surroundings. Maudsley says: "Very remarkable is it what a strain of exalted sentiment and lofty idealism is professed in some of these cases; the world is too coarsely selfish and rudely practical for their fine sensibilities and nice aspirations, and notwithstanding that they are sunk in a degrading self indulgence, and perhaps emasculated by it, they will pour out loftily-pitched moral sentiments, and take it hotly to task in high conceited fashion for its low aims and gross ways."

Emotional states prevail in this class of cases, and attacks resembling hysteria in the female are not uncommon. The patient takes to bed, or falls in a lifeless manner to the floor; he has a feeble pulse, relaxed skin, and dilated pupils. There is either a feigning of unconsciousness, or complete absence of self-control, weeping, shouting, and active lamentation. This condition is ascribed to nervous exhaustion from over-stimulation of the sexual organs. It may be followed by a paroxysm of maniacal excitement.

The vanity and egotism of these patients are phenomenal. This is a noteworthy sign of mental failure, and increases with impairment of intellect. Many imagine themselves possessed of great gifts, and dwell with pride on their varied accomplishments. Some delight in a display of oratorical powers, others write poetry or compose music. There is a strong tendency to speak of the opposite sex, and the average lunatic of this class imagines himself possessed of boundless powers of fascination. These characteristics were exemplified to a marvelous degree in the following case: A male, aged twenty-six was admitted to the asylum about one year ago. His father says that he exhausted himself by study at the age of eighteen, and that his mind "went to pieces" then. He did not suffer from brain fever, but was confined to his bed and seemed to be out of his head. When he got up he was left irritable and peculiar, unable to devote himself to any regular occupation or study, and without much purpose. At the end of a year he quarreled with a sister, and procuring money went to Kansas without the knowledge of his family. There he gained a bare subsistence, and at the end of eighteen months came home, ragged and wretched. His mind upon his return seemed much more active; he applied himself diligently to the study of law, and at the age of twenty-one was admitted to the bar. For some time he was associated in business with an older lawyer, and did pretty well in the way of making collections and practicing in the bankruptcy courts. In a year and a half he became impressed with an undue sense of his own importance, and established himself independently. In the course of a year his library was sold under a chattel mortgage to satisfy his rent. With the loss of his library he gave up, and for three years previous to his admission, did nothing for his own support. In Detroit he connected himself with one of the churches, and was quite a devoted attendant, but notwithstanding this his moral nature was very defective. His bearing while in the society of young ladies was objectionable, and on one occasion he narrowly escaped a cowhiding from an irate father, whose daughter he had insulted. There was, no doubt, progressive mental failure during these three years, but a relative, upon whom he depended for support, did not recognize the fact, and ascribed his growing irritability, indolence, and unpleasant characteristics to viciousness and sheer laziness. Finally this relative concluded he could care for him no longer. From Detroit he went to a neighboring city where his parents resided. There he made himself very obnoxious to young ladies by forcing his society upon them. He had a practice of staring at them in church, or at public entertainments, which was offensive in the extreme. He was addicted to poetry writing, and inflicted his productions upon whomsoever would accept. He had a scheme for "connecting water ways," and for "lake improvement," and made himself a great nuisance by his importunities to persons to purchase stock. Finally it became rumored that he was looking for the "girl who had jilted him," with a revolver, and being considered dangerous to be at large, he was placed in the asylum. When admitted he was suffering from a nervous disorder of the heart, and was reduced physically. He complained of pain in the back, suffered from constipation, believed that the bones of the spinal column were decaying, and thought that with every act of defecation portions of the spinal marrow escaped. He had many other delusions, among which was one that an explosive bullet had been administered to him in his food. He was listless, performed no active labor, and was indifferent to exercise. His vanity was excessive, his conversation was almost entirely about himself, and very self-laudatory; his poetry was reeled off to his auditors without mercy, and he delighted in displaying what he chose to believe was a highly cultivated voice. He devoted much time to personal adornment, and would spend hours prinking and smirking before a mirror. In public gatherings he would face full about and stare at the ladies. During the first few months he seemed to improve, but this change was not a permanent one, and in six months material impairment of mind had taken place. He grew more irritable, wore a surly look, and complained of a feeling of great confusion. To his attendant he confessed without shame that his habits were improper at night, and ocular evidence corroborated his statement. It was also reported at this time that he was seen by a fellow patient exposing his person at the window. One evening he was cautioned by the physician in charge against such practices, whereupon he grew highly indignant. An hour afterwards he approached an attendant, who was standing in a group with others, and dealt him a murderous blow on the head with a champer. The assault was made without provocation. He had previously been on the best of terms with this attendant, and no words whatever had been exchanged between them that evening; neither had the attendant reported anything to his discredit, and this the patient well knew.

The sense of shame gradually becomes obscured and eventually is lost. Disgusting acts are committed, indecent exposures of person and improper advances are made, and open indulgence in the vicious habit is not uncommon. Women frequently entertain delusions appertaining to the union of the sexes. Many believe themselves to be married, others engaged. Others again allege that men have been improperly intimate with them. They all possess very susceptible affections, and in many instances a disappointment in love has been the assigned cause of insanity. No less than four female patients of this class, at present under treatment in the asylum, have delusions of this character.

Two cases have been received showing well marked suicidal tendencies. Such, however, are comparatively rare. One case was that of a male, aged nineteen, who had been a close student and aspired to be a school teacher. He had been a victim of this habit for a number of years, and had been the prey of quacks and impostors, who had excited his extreme apprehension, and kept constantly before him the bugbear of impotence. One of these quacks had advised a complete renovation of the system by a restricted diet. He adopted the starvation plan, and became so much reduced physically that at the time of admission he weighed but seventy-five pounds. He had been much disposed to wander about alone, and just previous to admission had attempted self-mutilation by cutting his tongue. He had religious delusions, and was disinclined to eat. With physical improvement his mind grew better, and at the end of six months he was discharged "recovered."

The other case was that of a female, aged twenty-five, who inherited a strong predisposition to mental disease. She had been failing in mind for upwards of a year, her malady being ascribed by her friends to disappointed affections. She had imagined herself drugged and ruined, and claimed that she had been offered some indignity by a young man. She had twice attempted suicide, once by throwing herself into the river, and again by cutting her throat. This patient has become very degraded in habits, and her mind is greatly impaired. She entertains all her former delusions, is impulsive, violent, and disposed to make sudden assaults. Her prospects for recovery are very poor indeed.

Auditory and visual hallucinations are frequently found. In one case hallucinations of hearing were so intense and unremitting, as to almost completely destroy the comfort of the patient, and render him at times abject and miserable. Persecution from these evil spirits, as he was wont to style them, was occasionally so severe as to cause him to lose all self-control, to scream, and to cry out in agony. On one occasion he wrote to his father that "it is bother, bother, bother, all the time," and added, "insanity is a queer thing; persons who are not afflicted know not how much they suffer or how they feel. I have had spells come over me to strike people with my fists, or break the windows, but they were of short duration."

Another patient imagined that people made faces at him. He also heard himself mocked and accused of crime, and believed that a conspiracy was formed against him, to thwart him in all his undertakings. He had many other symptoms appertaining to this form of insanity, was irritable and excessively vain, and imagined himself a very superior person.

The tendency to the commission of sudden acts of violence has been alluded to, as a striking characteristic of this variety of mental disease. It has been illustrated in the cases mentioned, and instances might be multiplied. An hallucination or delusion (as in the case of N. E., who thought his mother a devil) may furnish the motive for an assault, or the attack is of an explosive character, is wanton, outrageous, and due to excessive irritability from sexual exhaustion, as in several of the cases quoted.

A patient was recently admitted to the asylum, whose case may be of interest in this connection. Some of the particulars recorded are doubtless familiar to certain members of the society. The patient, a male, aged twenty-nine years, was born in Germany and probably inherited from his mother a susceptible organization. He served three years in the army, then learned a trade and supported himself by his own exertion until five years ago, at which time he became deranged. He describes a sensation coming upon him then like a lightning stroke, which prostrated him temporarily, and gave him a severe pain in the back. In all probability he has never been well in mind from that time to the present. Soon after the attack he fell in love but did not marry—he says because he had no means. He has been in America most of the time for the past four years; has resided with a relative and worked at his trade. His mind has been unsettled, however. One year ago, in January, he again became anxious to marry. This, and other symptoms of mental disorder, induced his friends to send him to Germany for a six-months' sojourn. One month ago he met on the street of one our cities a lady whom he had formerly seen in a vision, and whom he recognized as his "double life." Procuring a pistol he visited this lady's house, and demanded of her that she marry him. Upon her refusal so to do, he shot at her three times. For this deed he was arrested, but his insanity being undoubted, he was committed to the asylum. His manner is that of one who has been insane for a long time, and is the subject of persistent delusions. He had at first a restless, suspicious expression of contenance, but was quite communicative. His conversation is extravagant. Although he admits he has had little schooling, he believes with a better knowledge of the English language he would be the first lawyer in the land. He has no appreciation of his condition, and considers himself perfectly sound in body and mind. He has had many visions. In one of them a female appeared and took improper liberties with his person.

The physical symptoms associated with this form of mental disease are attributable to the general impaired state of the nervous system, particularly of the vaso-motor system. We find pain in the back and limbs, disorders of circulation, irregular action of the heart, dilated pupils, wet hands and a coated tongue. Disorders of sensation are occasionally observed. The patient complains of languor, lassitude, and a feeling of general weakness. He is indisposed to exercise. Constipation and general derangement of the secretions are more or less constantly present.

In the above paper I have endeavored to call attention to the delusions and peculiar manifestations which I regard as characteristic of this form of insanity. In brief these are:

(1) An intense vanity and self-love;
(2) Extreme selfishness and disregard for others;
(3) Religious delusions and perverted moral sentiments;
(4) Delusions referable to the sexual system;
(5) Hallucinations of sight and hearing of a certain definite character;
(6) Emotional disturbances;
(7) Homicidal impulses and a disposition to commit sudden acts of violence; and
(8) Certain physical disorders referable to an impaired state of the nervous system.

About ten per cent. of all patients under treatment at the Eastern Michigan Asylum, suffer from this form of mental disease. This I believe to be a much smaller percentage than is generally supposed.

While it is true that among the insane this vice is not infrequent, in many instances it is indulged in consequence of the impairment of will power from disease, and is regarded as one of the results rather than a cause of mental infirmity. Cases of this character I have excluded in the above estimate.

ANTISEPSIS IN THE TREATMENT OF DISEASE.*

BY D. W. C. WADE, M. D. HOLLY, MICHIGAN.

Following my interpretation of the above title, I shall attempt to present a series of deductions, founded upon recent literature and my own experiments and experience on the therapeutics of the diseases, other than surgical, that have the fermentative process as a prominent element in their etiology. I regard it as properly without the province of this essay to occupy space with a history of antisepsis, or a review of the great work that has led to a fuller understanding of the subject, or even to recite the long list of experimenters and writers who have afforded us our enlightenment regarding microscopic life; but I shall rather confine myself to bringing up to the present the practical side of this interesting subject.

An intelligent discussion of the treatment of disease necessarily involves a reference to pathological conditions, and in no other subject can such references prove of more value than in this.

Believing it to be now almost universally accepted that fermentation consists in the development of a minute organic formation at the expense of an old organism, I do not regard it as profitable to bring forward evidence to sustain this definition, but shall use the term with reference to its most complete

*Read before the State Medical Society at its annual meeting at Ypsilanti, in 1882.

signification. We are not yet prepared to accept as final any statements as to the discovery or description of the poison, or more properly the organism, that appears to be the *materies morbi* in the diseases that are primarily constitutional, and still it is probable, that for analogical reasons, the medical profession are now quite unanimous in the belief that a certain class of diseases called zymotic, have their origin in infection from a living poison. It is quite different, however, with the diseases that are at first local, for in many of them the infecting agent has been minutely studied. Antiseptic measures, from the very nature of the term, imply a direct attention to the causal elements of the disease. It would be unfair to apply to antisepsis the title of empiricism, although in many cases a fermentable cause is not demonstrable, yet by a reasonable reference its application to remove diseased conditions appears indicated and the result seems to sustain the presumption; therefore we give antisepsis a rank among rational therapeutics. There can be no doubt that in many instances a supposititious fermentation pathology may be rendered reasonably positive by the result of antiseptic treatment, thus corresponding to many other determinations in pathology by the therapeutics.

Before studying the special indications for antiseptic treatment, let us glance at the armamentarium at our disposal and observe some of the properties of the various septicidal agents.

Alcohol is one of the best, if it really is not the most reliable preservative known. Thirteen and one-half per cent of commercial alcohol paralyzes bacteria, but not permanently. Fifty per cent. prevents decay of animal tissues indefinitely. Twenty per cent. used as a surgical antiseptic precaution, with proper subsequent protection, has in my hands been unequaled as a preservative in wounds from minor cuts up to ovariotomy. I wish to emphasize its importance as a germicide, but I do not wish to urge its use to arrest fermentation already commenced. It is itself susceptible of acetic fermentation.

Turpentine is here mentioned as a type of the balsams and other terebinthenates. This class of septicides are quite pronounced in their action, and are very useful as protectives. They are generally used with reference to a combination of their other valuable properties and those of germ destroying.

Carbolic Acid enjoys the widest reputation as an antiseptic of any known remedy. I do not hesitate to question its right to this position, not because it is weak, but because some of its properties have been overrated, and because other of its properties are frequently very objectionable. For these reasons it has been the means recently of breaking the force of the antiseptic theory of the treatment of wounds all over the world. I do not think it especially creditable that carbolic acid should have been so intimately associated with antisepsis that the undesirableness of some of its effects could so nearly upset one of the most valuable plans to benefit humanity of any age. Its effect upon bacteria is to produce apparent death. It is more than probable that its action upon this organism is really paralysis from which resuscitation may take place. Its action to prevent putrefaction, as an antiseptic surgical precaution has been a success. Its action to prevent septicæmic infection, after the commencement of putrefaction, has been a miserable failure, and very probably because it does not destroy the life of bacteria with a sufficient degree of certainty. I should say that this failure may often depend upon its marked power to coagulate albumen, and thus forming a protection against a thorough action. Its local anæsthetic properties and its power to preserve the sweetness of albuminous fluids are what constitute its value. Its unpleasant odor, its poisonous effects when absorbed in considerable quantities, and its failure to permanently remove the dangers of septic infection are the reasons why it may not take precedence over other antiseptics.

Chloral Hydrate is an antiseptic I wish to especially recommend for local use. Its first effect is that of an irritant, which is rapidly followed by a reverse effect. I am unable to find a large amount of literature upon the antiseptic properties of chloral, but I have myself tested it in many ways, and I feel confident that the combination of its preservative properties with that of a sedative, and perhaps other unexplained effects it may produce, render it a very desirable acquisition to the list of antiseptics.

Chloric Acid is an antiseptic depending upon both its chlorine and oxygen for its activity. These elements are loosely held together, each having a much stronger affinity for hydrogen than for each other. Its applicability is in place of its potassium salt, where both are acid and positive results are desirable. The best formula I can give for its convenient production is the one originated by myself and published in the *Detroit Lancet* in June, 1879, and is as follows:

Take of—

Chlorate of potassium......................	360 grs.
Tartaric acid..	440 grs.
Water..	iii fl. ℥.

Dissolve the salt in two-thirds of the water by the aid of heat. Before cooling, add the acid previously dissolved in one-third of the water. After cooling and completion of the precipitation, decant. Each fluid drachm contains about fifteen grains of chlorate of potassium in equivalence.

Bromine is such an acrid substance that its use as an antiseptic is extremely limited. That it has great power cannot be denied.

Iron as a chloride or a sulphate is an active antiseptic, and effectually destroys microscopic organisms. These salts are particularly useful where a firm albuminous coagulum is desired, and where an astringent is also indicated.

Mercury in the form of a salt is frequently prescribed, when often, no doubt, its beneficial effects depend upon its septicidal properties.

The above described antiseptic remedies all coagulate albumen. Some of them combine to form albuminates, and others render this proteid element of the animal economy insoluble in an unknown manner. Some of the chemical albuminous insolubles are rendered soluble by the addition of reagents, as in the case of the albuminate of mercury which is soluble in a solution of chloride of sodium. Considerable importance often attaches to the selection of an antiseptic in its relation to albumen, and hence I have determined by experiment what I have been unable to find in print on this subject. The following antiseptics do not coagulate albumen.

Salicylic Acid and the salicylates have come into great prominence as anti-ferments, and in my opinion justly so. Their comparatively unirritating quality renders them frequently applicable when other similar remedies of equal power would be contra-indicated. The salicylic salts are very easily decomposed, setting the acid free, without which change their power would be quite limited. The slight solubility of the acid (one to three hundred) renders it all the more valuable in some instances, and in other, almost useless.

The solubility of its alkaline salts does little more than facilitate its internal administration, after which the stomach acids (if present) liberate salicylic acid with precisely the same eventual results as if it had been administered uncombined.

The constitutional effects of this acid may be so undesirable as to render its continued internal use impracticable. One-fifth per cent. of this acid stops the movement of bacteria. It appears to have no other local effect, and hence is not as successful in local treatment as are many other septicides. Were it not for its cerebral effects, it is probable that a sufficient quantity could be safely given to destroy bacteria in the circulation, which would require for a person weighing one hundred and sixty pounds about two hundred and eighty grains.

Boracic Acid is not a new anti-ferment, but it has occupied of late much more space in the periodcal literature than formerly. It is a weak antiseptic, yet it and its soluble salts quite successfully prevent germ incubation. It is the least irritating of any known antiseptic, and produces little or no observable effect upon the animal economy; hence the dose may safely be large. According to my observations its value for topical pürposes has been considerably exaggerated, and I look for a decrease in the number of its admirers in the near future.

Sulphurous Acid effectually destorys minute organisms. It is an unstable gas, and having little value other than as an antiseptic, its range of usefulness is much modified. It should, however, be firmly born in mind that this remedy in a concentrated form is one of the most energetic anti-ferments known. It is irrespirable, but appears to be quite innocuous when properly administered by the stomach. The undecomposed salts of this acid are of little or no value, but having slight affinity for salifiable bases, its benefits may accrue by this most convenient method of application and administration. As a rule, however, the use of the sulphites will prove to be much more satisfactory when their decomposition is artificially provided for. The sulphite of magnesium is but slightly soluble in water, but the bisulphite of this base is soluble, and it can be extemporaneously prepared by adding one-half an equivalent of citric acid. The mixture will then contain citrate of magnesium, bisulphite of magnesium, and water, which is probably the most convenient and eligible way of adminstering sulphurous acid.

Benzoate of Sodium is about the only satisfactory representative of benzoic acid. In the stomach the latter is freed from its base by hydrochloric acid, and it is in the uncombined condition that it exerts an anti-ferment influence. Its other properties are needed to sustain this remedy in the list of antiseptics.

Chlorine has a position among anti-ferments that as yet is invaluable. It is, however, of little other value in medicine. Its action is through the great affinity it possesses for hydrogen, being capable of breaking up organic tissues by its abstraction of this gaseous element, resulting in the formation of hydrochloric acid. It is one of those septicides that can be depended upon to sweeten already putrefactive fluids, and it is sufficiently unirritating to be appropriately used on sensitive tissues. It is irrespirable, but does not produce marked constitutional effects by way of the circulation in reasonable amounts. Hypochlorous acid combined with a base has proved in my hands to be the most satisfactory form for its use, either internally or topically. The solution of hypochlorite of potassium after the officinal formula for hypochlorite of sodium, by substituting bicarbonate of potassium for carbonate of sodium is the preparation I should recommend. It is proper to say here that no gas sufficiently diluted with air to be respirable will have the least influence upon germs or their products, hence the unpleasant custom of perfuming a sick apartment with the chlorine emanating from dishes of hypochlorite of calcium (chloride of lime) can only be founded upon ignorance.

Chlorate of Potassium has many satisfactory uses as an anti-ferment. As a salt it is worthless, its whole value depending upon first, its chloric acid, easily set free, and second, the further decomposition of chloric acid as heretofore described.

Iodine belongs in the category of the halogens, sulphur, chlorine, and bromine, each properly applied or combined having an immense energy as a septicide. The other properties of these halogens are quite dissimilar, but the septicidal action of each probably depends upon its chemical affinity for hydrogen, perhaps excepting sulphur. It should be noted that the chemical affinity of the halogens is immensely more energetic in their nascent state. The physical properties of iodine give it a wide range of applicability as an antiseptic, and the result of my clinical observations in its use gives me an unbounded confidence in its power to arrest fermentative diseased action. It is among those remedies that have had the widest of empirical uses, many of which are now, however, reduced to a rationality by the light of recent studies of the fermentative process.

Iodoform is a bland sedative, and when changed by contact with organic tissue into nascent iodine, becomes an active antiseptic. Such a combination of properties is probably not possessed by any other substance, and therefore its invaluable applicability in certain diseased conditions is shared by itself alone. Its slight solubility prevents its substitution many times for otherwise less desirable remedies.

Permanganate of Potassium ranks among the most active destroyers of minute organisms. Its feebly held oxygen has a great affinity for the hydrogen of organic substances,—hence its mode of action. Unfortunately its effect upon sentient nerves is too pronounced to permit of a extensive application of its power to medical purposes, and it is therefore relatively seldom prescribed for its oxidizing properties.

Quinine is capable of preventing fermentation to a certain extent. As a topical remedy it is inferior to many other antiseptics, and is therefore but little used in this manner. Its special antagonism to the *materies morbi* of malarious affections is one of the most interesting topics for thought that is brought out in the study of antiseptic medicine. Its peculiar action in malaria has led to much speculation, and it has been exhaustively experimented with in other zymotic diseases, resulting in total failure.

Thymol has been claimed to be the most deadly poison to microscopic life yet discovered. Motion ceases in putrefactive fluids upon the addition of less than one-tenth of one per cent. It is but slightly soluble in water, but I have found after many experiments that a five per cent. solution can be made by the addition of castile soap. Thymol is a local irritant, and I believe is not known to have marked medical properties, excepting those before mentioned.

Hot Water (115° Fahrenheit to 140° Fahrenheit) is at once one of the simplest and most valuable of antiseptics. Water at a temperature between 60° Fahrenheit and 105° Fahrenheit is necessary to the development of minute organisms. At 115° Fahrenheit to 140° Fahrenheit it effectually puts an end to their development. At 160° Fahrenheit it coagulates albumen. The proper temperature for the destruction of fermentative products is easily borne in any part of the body, and on account of its property of lessening hyperæmia, and thus hyperæsthesia, there arise many occasions where no other treatment can equal the positive results that may be obtained from the free use of this simple remedy.

Glycerine is capable to a considerable extent of preventing some forms of fermentation. It is unlikely that this property depends entirely upon its affinity for water, for its anti-fermentative power continues when it is considerably diluted with water. Its solvent qualities render it a very eligible addition sometimes to other similar remedies.

Oil of Wintergreen is a salicylate of ethyl, and is properly classed among the antiseptics. It is not particularly useful, except to reinforce other agents, for which purpose its agreeable properties may quite properly induce such combinations.

A long list of antiseptics remain undescribed, but the impracticability of adapting many of them to the treatment of disease, and the variety and imperfect knowledge we have of others, and the belief that the various classes are already fully represented in those here brought out, are my reasons for ending the list. I wish it to be particularly observed, that there is yet not discovered a perfectly satisfactory antiseptic. The great need of the medical profession to-day is the production of an agent that is at once an energetic poison to micro-organisms, and innocuous in its effects upon man. We must not answer that such a proposition is paradoxical, for among the antiseptics with which we are now acquainted, there is not a corresponding relation between the destroying power they possess upon the higher and lower organizations. The action of many of these agents upon low forms of life is quite unlike the manner in which it proves deleterious to higher grades, and it appears that the fact that the known antiseptics poison both high and low is entirely coincidental. There is therefore no insuperable obstacle in the way of such a discovery, and the revolution that would follow the development of antiseptics to this extent would have never before been equaled by the beneficent discoveries in the interests of humanity.

It is not my design to discuss the treatment of all fermentative diseases, but to review such of them as will involve a consideration of all classes of diseased conditions depending upon the fermentative process. Many of the experiments have been made alone upon the patient, because the morbific agent has never been isolated in the primarily constitutional infectious diseases to a satisfactory extent, and it has been determined that the activity of a septicide upon tangible microscopic organisms bears no relation to its effect upon the specific organisms that produce the above described diseases. In fact the treatment of primarily constitutional diseases in which the etiology is generally accepted as fermentative, has not as yet been successfully conducted on antiseptic principles, if we except the malarious affections. It is true that the course of small-pox, measles, scarlet fever, and other exanthems has been materially modified by the introduction of septicides into the circulation, and it is probable that the organisms that produce these diseases are less hardy than some of those that have been experimented upon in the laboratory. A strong argument for this presumption is that in septicæmia no impression can be made upon the course of the symptoms by any known anti-ferment. I hope to be able to explain in an appropriate place why such is the case. It is to be hoped that the rapid strides now being made in the study of fermentative diseases and their remedies may soon develop an antidote for each; as, reasoning from the antidotal powers of quinine in one of these affections, it is but fair to suppose that the poison causing the others may be destroyed by an agent, not necessarily more active in its effects upon low forms of life under the microscope than is quinine. Among those that have been given for this purpose are sulphurous acid, free and combined, sulphocarbolates, chlorine compounds, salicylic acid, salicylate of sodium, carbolic acid, thymol, eucalyptus and some other similar antiseptics. Their use originated in the fact that they were capable of preventing and arresting the putrefactive process without the body. It should be borne in mind that a substance that is very active in arresting fermentation may be much less useful as a remedy against constitutional infection, than one less active but less nocuous to the human system.

Septicæmia is one of the names given to the results of the entrance into the circulation of the products of putrefaction. The relations of this condition to several diseases render it desirable to discuss somewhat in detail the essentials of the pathological conditions present. I believe it is settled now as true that the decomposition of albuminous fluids depends not upon an inherent property of the elements of dead tissues to separate and recombine, but upon the implantation in those tissues of germs which after incubation under favoring circumstances become bacteria, and that the decomposition wholly depends upon the appropriations of these tissues as food for the new growth. It has long been known that fluids so occupied with bacteria were poisonous when permitted to enter the circulation without filtration through intact tissue, but that such absorption was harmless except by way of a solution of continuity of tissue. Now whatever this means, it proves that the real poison can be removed from putrescent fluids by dialysation. Let us see what is so removed. If a putrescent fluid is filtered through paper the filtrate will present under the microscope no change except a temporary removal of turbidity, and injected into the circulation is none the less virulent in its poisonous action. If now dialyzed through an animal membrane or porous porcelain, the filtrate will contain no bacteria, nor can it produce septicæmia, but the residue will contain the bacteria, and it still retains the poisonous properties. These are quite conclusive reasons for supposing that the real poison is the living organism, and that the proper name for the advent of this organism into the circulation is bacteræmia.

It is not within the province of this paper to enter into symptomology, and I will only call attention on this subject to the fact that the symptoms of septic infection are never simulated by any other pathological state to an extent sufficient to prevent complete differentiation; therefore when these well known symptoms are present, it must be concluded that the blood has become contaminated by putrescent material. If the blood is so contaminated we cannot but know that a solution of continuity of tissue has occurred in some part of the body, and is in contact with a putrescent fluid. I think we have reason to suppose that bacteria are not multiplied in the circulation, and that the gravity of the disease is in direct proportion to the amount of poison taken up, other things being equal. Death is produced in bacteræmia by cardiac asthenia. Having considered the pathology of septic infection only sufficiently to devise a rational treatment, it is proper to raise the question whether the propositions advanced are sustained by the result of clinical observations. Basing conclusion upon the literature of the subject, and upon the result of my own observations, I must answer most positively in the affirmative.

There are two principal purposes to accomplish in the treatment of this variety of blood poisoning, and they are, to sustain the heart's action, and so much as possible to cut off the supply of infective material. It will be observed that I can give no encouragement to the glittering proposition to deal with this disastrous guest of the blood during his life within the blood-vessels. It is very natural to look to those agents that are known to have a peculiarly destructive effect upon the lower forms of life for aid to put an end to so formidable an affection, in a purely rational manner. It must, however, be borne in mind that the power of a septicide depends upon its state of concentration; that is to say that all destroyers of the lower forms of life may be rendered entirely inert by dilution. It matters not how many bacteria are to be dealt with, for an amount of the destroying agent sufficient to kill one animalcule in a given quantity of fluid will kill all, and the whole question of the amount of antiseptic required depends upon the amount of fluid in which the bacteria float. Let us apply this question to bacteria in the blood. We estimate the amount of blood in a person weighing one hundred and sixty pounds at twenty pounds. The amount of commercial alcohol required to cause the movements of bacteria to cease in this amount of fluid would be over two and one-half pints, which may be considered to be entirely impracticable. The amount of thymol necessary to accomplish the same same object would be nearly one hundred and forty grains, which amount in the circulation at one time would doubtless destroy the individual. Of carbolic acid it would require at least three ounces, regarding which nothing more need be said. So far as is known to-day, there is no agent that can safely be introduced into the circulation at one time that has the least influence upon bacteria therein. And now what may be considered very important, all clinical experince has demonstrated that the theoretical propositions here advanced are sustained in practice.

Cardiac asthenia may be attributed to two causes: shock affecting the heart's nerve supply, and failure of its nerve nutrition. The first must be overcome by cardiac stimulants; and the second by nerve food. It was thought not long ago, that when whisky and quinine failed to prevent the heart from weakening all was lost. I wish to invite especial attention to the following plan of prompting the nerves that supply the heart. Of alcohol in the form of whisky, I have nothing to add that is new. Quinine cannot be deserted as a stimulant, but I am confident that unless it is given in a soluble form much of its effect will be lost from non-absorption. The most eligible preparation for certainty of action, in my opinion, is the bisulphate. I can detect no difference in clinical results between cinchonidia and quinine. Ether is the most rapid heart stimulant known, and to me is indispensable for this purpose. Camphor is a slower stimulant, but its effect is pronounced and lasting. The well known effects of the ammoniacal preparations are also very desirable to obtain. This list is not easily improved upon, nor will it be found often necessary to add to it. But one of the most important accessories to preventing heart failure is the proper supply of nutriment, without which the effects of stimulants can but be of short duration. I attach great importance to the exhibition of beef in a form in which both its stimulating and nutritious properties are retained. It should be well known that any extract of beef made by the aid of heat above 160° Fahrenheit, does not contain an appreciable amount of nutriment, and that death by starvation cannot be delayed by its use. No other kinds of food are of any relative consequence, as compared with beef for the purpose of permanently overcoming depressing influences upon the cardiac nerves, but to obtain the desired effects it must be absorbed; to be absorbed it must be dissolved. It will be agreed that digestion by a natural ferment should be the most desirable manner of securing solution. To avoid offense to the taste it is preferable to provide for the digestion within the stomach. This may be readily secured in two ways. First, the beef should be prepared by scraping it into a fine pulp containing no shreds of tissue or fat. It should be preceded by either pepsine combined with hydrochloric acid, or by pancreatine and an alkali. I now prefer the latter. The digestives should be known to be non-saccharated, and of the best quailty. A practical formula of the treatment here laid down for cardiac asthenia may be made as follows:

Take of—

Camphor	xxx grs.
Bi-sulphate of cinchonidia	xxx grs.
Ether	160 ♏.
Whiskey, to make	ii fl ℥.

Mix and write: Teaspoonful in water every hour or two as may be necessary.

This mixture may be used hypodermically.

Take of—

Carbonate of ammonium	160 grs.
Prncreatine, (Savory & Moore's)	80 grs.

Mix, make sixteen powders and write: One powder in a wafer before the beef pulp.

Take of—

Beef pulp a sufficient quantity.

Mix and write: Teaspoonful (with salt and pepper if desired) every hour or two as may be necessary, alternating with the liquid stimulant.

In view of the fact that cardiac failure in acute diseases is the frequent source of fatality, certainly nothing can be more important than to add to our resources in such emergencies. I hope to have shown an improvement over quinine, whiskey, milk, and extract of beef, which constitute the plan in general use even at the present time. Inasmuch as our topic is non-surgical, the treatment of the source of infection in bacteræmia will be discussed in connection with those diseases having septic complications.

Typhoid Fever.—A disease having for its pathology, inflammation and ulceration of Peyer's patches, caused by a specific poison, having (perhaps) a similar action upon no other part of the body, and generally complicated by septic infection. This definition is mine. The constitutional symptoms are those of septicæmia, and they never occur without facilities for septic infection. Were these ulcerated glands within easy reach, with our present knowledge of antisepsis, typhoid fever would be rendered of little consequence. Both the organism that preys upon this portion of the intestine, and the ingress of putrescent fluid, could be readily controlled but for the inaccessible location of the disease. In this affection it would appear that the blood poisoning occurs by the more or less continuous travel to the circulation of small colonies of bacteria. The symptoms indicate this, and the local facilities for infection appear to substantiate this proposition. The treatment for the constitutional condition is precisely that for septic infection as heretofore described. Death is largely the result of the blood poisoning, but sometimes is caused directly by the local lesion. There should be two aims in the local treatment: one to destroy or modify the action upon the glandular intestinal tissue, and the other to arrest the putrefaction and thus cut off the supply of septic infection. This cannot be accomplished by way of the rectum, and it cannot be accomplished by way of the circulation, and I am not prepared to say that in the present state of knowledge it always can be satisfactorily done in any way, but I will call attention to the only reasonable plan to adopt, and that is to attempt to prevent putrefaction within the alimentary canal. Antiseptics that are readily absorbed can do but little good. If frequently repeated, they can prevent the fermentative change commencing in the stomach, but to keep the contents of the bowel sweet an antiseptic must be chosen that is less soluble, or if possible be so combined as to prevent absorption before the ulcerated surface is reached. It is not necessarry that the agent designed to prevent fermentation should be as active as one that must destroy bacteria, for there is a wide difference in the power required. It may be easier to prevent fermentation of the intestinal contents, and the albuminous fluid of the ulcers, than it is to kill the fully developed typhoid poison that produced the ulcers, but it is quite probable that if the latter poison should remain undisturbed; and septic fermentation could be controlled, the ulceration would be much less formidable. In the list of those agents that appear to be capable of being carried down the intestinal tract before being entirely absorbed, are emulsions that may contain an antiseptic (for instance turpentine), salicylic acid, sulphite of magnesium, thymol, iodoform. Constipation so as to cause detention in the upper part of the bowel of the antiseptic should not be allowed. No other theory, it appears to me, can be more reasonable than that I have given of the pathology and treatment of typhoid fever. From all the information I can gain, the nearer this treatment has been approached, the greater the percentage of recoveries.

Diphtheria.—When this disease produces death, it is almost invariably either by extension below the glottis or by septic infection. I shall refer to the treatment of septicæmia for the management of that element of the disease, and shall in the main confine myself to the study of the local manifestations in the pharynx. Excluding poisoning of the blood by bacteria, and extension of the false membrane beyond the limits of the fauces, diphtheria would not cause much apprehension for the safety of the patient; in fact under such circumstances it would not equal quinsy in the discomfort produced. To effect such a result should be the object of our treatment. Simply, then, let me say that constitutional treatment, for the purpose of combating the local affection, is irrational and useless. Our efforts should be directed to the destruction of the new growth, and the prevention of putrefaction. Happily that which accomplishes one does the other. The choice of antiseptics advisable in this case may be very wide, but there are reasonable objections to some which will be noted. First let us consider the methods adopted for instituting local treatment. It is not probable that putrefaction can be prevented and its products effectually disarmed by the inhalation of anything respirable. It is necessary, in order to purify an ulcerated surface, protected by a membrane or exudate, to do more than pass over it a dilute vapor. I cannot believe that there is any other safe method of accomplishing this purpose than by saturating the affected parts with a solution capable of destroying bacteria, and that to make sure of effecting the purpose, to repeat the operation every hour. I exclude volatile, suffocating septicides like chlorine, bromine, and sulphurous acid, and rely upon those that are at once effective and comparatively unirritating, and that do not coagulate albumen, and thus produce a protection against thorough disinfection. Iodine admirably fulfills these requisites. The precipitated iodine being slowly changed to hydriotic acid, adheres to the parts and produces a continuous antiseptic action. Besides this, its effects in reducing acute inflammatory action of the fauces is more pronounced than any thing else I have ever used. I prefer for making the applications an ordinary swab, because it carries more fluid than a brush, and its greater firmness permits the application to be made more thoroughly. In an event of so great importance emotional feelings should not stand in the way of thorough treatment, no matter how rebellious the patient. It should be remembered that septic infection may not occur in the absence of treatment, and therefore it cannot be determined from a few cases whether the treatment should receive the credit for the absence of septicæmia. I am fully convinced that local antisepsis prevents extension, and that in many cases where croupy symptoms were the first discovered, they were preceded by a diseased pharynx that a child may frequently not complain of, but that an examination would have revealed.

Take of—

Tincture of iodine...........................	xxx ♏.
Water.....	i ℥.

Mix and write: Shake the vial and apply every hour.

I should add that when septicæmia has already commenced the supply of infection should be promptly cut off by local antisepsis. The principles here adduced have been fully sustained in a large experience in the treatment of this disease.

Puerperal Fever.—There is no disease that appears to be more clearly the result of septic infection than this. The symptoms are those of septicæmia, and those symptoms never occur to a patient known to be in an aseptic condition. The facilities for infection cannot be excelled whenever a puerperal uterus is the seat of a solution of continuity, for it contains a putrescent mass, unless it is effectively provided against by human agency, and the disease never occurs if putrescence of the uterine contents is prevented. The fostering conditions surrounding the retention of an albuminious fluid in any portion of the human body, having been exposed to fermentative germs, will generally develop a fermentative product in eight hours. Any puerperal woman is in danger of septic infection who may have facilities for bacterian transmigration from the uterus, unless putrescence is prevented, and in as much as it is impracticable to determine the condition of the interior of the uterus, she must rely for prophylaxis upon asepsis. Upon this subject I shall advise that the most convenient and satisfactory prophylactic measure is that frequently adopted in surgery, to prevent the retention of fermentable material by drainage, and this is to be accomplished by frequently assuming an erect position. In practice this has proved a great success, for by it patients are enabled to avoid the putrefactive odors that always attach to putrefaction. However, if it is known that the uterus contains solid elements for fermentation, other measures than drainage must be instituted, which will be described further on.

If by neglect, or in spite of antiseptic precautions, a solution of continuity of uterine tissue has permitted putrefactive products to enter the circulation, we will now have to deal with puerperal septicæmia. Let us distinctly remember that recovery may be possible in all cases of septic blood poisoning, when only a minimum of septic material has been taken up, providing a further ingress of poison can be prevented. The source of septic infection does not change the constitutional treatment, and as that has heretofore been given, we shall be confined to the very important subject of the arrest of the putrefaction. It is a grave mistake to depend upon the statement of the patient or attendants in regard to the probability of improper retentions within the uterus. They do not always know, but when the symptoms of septicæmia are present, an investigation will never fail to find the origin where I have already indicated. Manifestly the local treatment should be directed to the removal of the source of the infection, and this can generally be done in either of two ways, but should be done by both. One method is the introduction within the uterus of anti-ferments, and the other is the removal of the fermentable material. In the choice of antiseptics, reference should be had to energy in destroying bacteria, to convenience of application by injection, and to non-coagulating property. Probably to fulfill these indications no medicine excels the hypochlorite of potassium, although others in our list may be satisfactorily substituted for it, at any rate no time should be lost in the application of whatever may be decided upon. But above all other remedies that may be used to both destroy bacteria and remove the medium for their development, I recommend hot water. The details of this operation can only be safely entrusted to the medical attendant, who must be provided with a suitable instrument for thoroughly washing out the uterine cavity. Success will depend upon ability to remove the whole of the offending material, or preserving it from further changes, until it can be removed. Inasmuch as the septic poisoning shows to a certainty that the uterus is not in a condition to restrain infection, the operation should be repeated every six hours, until perfect drainage can be established. I will add that clinically, the local treatment I have described shows surprising results, both as to the amount and character of the contents of the uterus, and in the amelioration of the constitutional symptoms. Whoever shall test the treatment here recommended, will be quite unlikely to doubt the correctness of the indicated pathology upon which it is founded.

Typhoid Pneumonia.—The literature of this disease is meager and unsatisfactory. To the symptoms of pneumonia are added those of septicæmia. In addition to the constitutional treatment of this dangerous complication, I can give no advice founded upon any reported clinical observations to which I have access, but I wish to call attention to the fact that it is probable that a plan could be devised by which a further admission of germs to the lungs could be prevented. To arrest the putrefaction is doubtless impracticable by the inhalation of necessarily dilute anti-ferments, but the putrefactive changes may be considerably limited by degerminating the air to be respired. I have not determined what would be the most practicable method of accomplishing this, hence I shall leave the subject for a future consideration. It is but proper to say that the constitutional treatment of septicæmia is the one above all others for the cardiac asthenia that is generally the cause of death in uncomplicated pneumonia.

Erysipelas.—I cannot demonstrate that erysipelatous dermatitis is a fermentative disease, but I am quite positive that it yields to antiseptic treatment more promptly than to any other. Constitutional treatment alone has little influence upon this affection, but the effect of local treatment is quite observable. Carbolic acid in my hands has given more satisfaction than has any other remedy, and I have no doubt that its property of producing local anæsthesia is the basis of a large percentage of its value.

Take of—

Carbolic acid..................................	xv to xxv grs.
Glycerine..	i fl ℥.

Mix and write: Apply with a soft brush every two hours.

Suppuration.—It is strange that suppuration cannot be produced artificially without facilities for germ infection, and that if the opportunity is otherwise present, it may be prevented by germ destruction. Understanding this, it is more strange that suppuration may occur without a known source of germ implantation, and that multiple abscess may result from the absorption of unfermented pus. Poisoning from putrescent pus is simply septicæmia and need not be further mentioned. From what is known of suppuration it would appear that its etiology is intimately connected with the production of a new formation by germination. It is not difficult to prevent suppuration by the local use of anti-ferments, but when the locality is such that local action is impracticable, the inquiry is at once made, can suppuration be influenced by constitutional treatment? There can be no doubt that this question may be properly answered in the affirmative, and that beyond all comparison, sulphur is the remedy. This anti-ferment uncombined is insoluble, and to obtain its constitutional effects it must first become soluble. I need not now go through with the chemistry appertaining to the administration and absorption of sulphur, but whatever may be its chemical state in the circulation, it has become a settled conviction by the profession that it is best administered in combination with an alkali or an alkaline earth. The preparation now in vogue is the sulphide of calcium. It is not probable that this salt has in this affection any therapeutical value referable to its base, but as far as I am able to discover, it is chosen as an eligible method of exhibiting sulphur in an active form, with a minimum of undesirable effects upon the stomach. Late literature would seem to show that this therapeutical agent is a valuable acquisition to the list of anti-ferments.

Dyspepsia is aggravated or wholly produced by fermentation of the ingesta. Failure of digestion without a resulting fermentation, if possible, would produce no such irritating effect upon the stomach, as is the case when the food is turned into a fermenting mass, and it has been abundantly shown that the artificial prevention of such a change in the contents of the stomach will often permit that organ to regain its normal condition. One of the strong tenets in aseptic therapeutics is the removal of fermentative material when practicable, and its accomplishment in the few cases where it has been practiced by the aid of the stomach pump, in chronic gastric catarrh, has given very encouraging results. In private practice this procedure, as a rule, is entirely out of the question, and so far as antiseptic therapeutics go, we are confined to the various drugs having these characteristics. For reasons that I am not fully able to explain, their effects vary in different cases in so marked a manner that we shall be unable to foretell what remedy will be best suited to each individual case. Some of the most valued antiseptics produce constitutional effects which may render them entirely inadmissible. The rapid removal of an antiseptic in solution from the stomach by absorption renders its action temporary, and the fermentation proceeds. When the debris of a former digestion, or rather indigestion, is mingled with fresh food, a condition is brought about that may go on indefinitely if not interrupted by properly directed measures. I think it safe to say that in this disease, any effort made to cure it, directed to the afflicted organ, and ignoring especial attention to its contents, will surely result in failure; therefore it becomes of great importance to study the antiseptic method of treating indigestion. In this affection it is the etiology and not the pathology that claims the most of our attention. I should say that our choice of antiseptics will prove most satisfactory if chosen from this list: Hypochlorite of potassium, borate of potassium, chlorine water, salicylic acid, sulphite of magnesium, glycerine, iodoform, thymol. The most difficult food to preserve in the stomach is starch in any form,—the easiest is beef and mutton. Nothing can be of more importance in the management of an obstinate case than a practical observance of this very true statement. It seems quite certain to me that the alarming increase of dyspepsia in this country bears a direct ratio to the consumption of canned fruit, and this view is strengthened by a consideration of these relations in individual cases. As a prophylactic measure, this suggestion should have an important place. A fair test of the antiseptic treatment involves a repetition of the dose from one to three times after each meal. I presume that many instances of failure may be attributed to neglect of this precaution. The stomach with its provisions for exosmosis of fluids, differs materially from a tight vessel in which experiments may have been made, and an equal correspondence in results may be expected. An important ally in the preservation of the contents of the stomach from fermentation consists in at least a partial attempt to secure the results obtained by washing out the viscus, and this may be accomplished by allowing no evening meal. So far as inconvenience is concerned, I have found that this long rest of the stomach soon becomes a habit not at all to be regretted by the patient on account of the pronounced benefit that is promptly experienced.

Infantile diarrhœa almost invariably depends upon fermentation. I desire to invite attention to this view of the pathology and urge that the treatment be based upon this view of the affection. Borate of potassium as a preservative and an antacid is particularly efficacious in these cases, and total abstinence from food is a valuable addition to the anti-fermentative plan.

Intermittent fever will receive but little attention, not because little interest centers in it as a zymotic disease, and its great antidote, the cinchona alkaloids, for there is no disease that has occasioned greater wonderment, and no antidote that has been a greater subject of admiration; but because almost everything connected with the affection is old, and there is nothing of importance that is new to say. The periodical discovery of the organism that causes malarious affections has occurred, it is announced, and we await further developments. I can say from a personal knowledge that is sustained by the testimony of my neighbors in the profession, that cinchonidia has exactly the same standing as quinia as an anti-periodic. I will also add that in cases where the disease obstinately returns, the alkaloid dissolved in hydrobromic acid may be administered for a long time as a prophylactic without evil results, and with success.

Gonorrhœa is undoubtedly a fermentative disease. A treatment directed exclusively to overcoming the pathological conditions of the inflamed mucous membrane will not prove nearly as successful as one that has reference to the fermentative process, that by its irritative properties, continues the phenomena of inflammation. I shall close this subject by advancing a plan of treatment that has a very strong support from a clinical standpoint.

Take of—

Iodoform, pulverized	ii ʒ.
Subnitrate of bismuth	ii ʒ.
Chloral hydrate	xv grs.
Morphine	v grs.
Oil of rose geranium	xx gtts.
Cocoa butter	i ℥.

Mix and make twenty-four suppositories one-eighth inch in diameter. Write: One suppository to be pushed into the urethra three times daily.

Skin diseases, from a scientific point of view, are among the great studies. A brief reference to some of their peculiarities will suffice to connect them with our topic. It appears that nearly all of the skin affections are described as dermatitis, with the understanding, however, that a limited number are conditions of hyperæmia, but lacking inflammatory characteristics. It is a striking and interesting subject for inquiry that inflammations of the integument should be accompanied by so great and constant a variety of phenomena, and there seems to be no obstacles to the connection of these conditions with their etiology. No other rational hypothesis is likely to be substituted for this in the present state of our knowledge. Although the origin and perpetuity of these diseases cannot generally be demonstrated to depend upon adventitious living organisms, yet such a theory must supplant any proposition founded upon the morphology of the diseased tissue under discussion. Although it must be admitted that antiseptic agents may possess other remedial properties than those of destroying parasitical growths, it is also true that the most successful treatment of the greater part of skin diseases is the aseptic one. The action of the preparations of mercury, zinc, and lead, when used locally in some of the diseases of the skin, is quite probably dependent upon the formation of albuminates of these metals within the diseased structure, and perhaps their resolution in the alkaline fluids that may be present, producing thereby a radical morphological change in the inflamed part, generally denominated alterative.

This plan of treatment has no reference to the hypothetical etiology I have proposed, and in my hands it has often failed where anti-fermentative treatment has succeeded.

I do not propose to go into the details of the treatment of each of the immense variety of skin diseases, but rather simply make the effort to awaken an interest in this branch of study. Having had especial opportunities of testing the merits of the formulas I shall give in prurigo and eczema, I shall leave the subject by saying that I do not believe they can be profitably replaced by anything else to be found in the literature of the subject, and that in many other of the skin affections there are reasons for expecting as satisfactory results.

Take of—

Washed sulphur	xxx grs.
Carbonate of ammonium	xxx grs.
Petroleum ointment	i ℥
Perfume, sufficient quantity.	

Mix and write: Apply at night and wash with soap in the morning. (For prurigo.)

Take of—

Iodoform, pulverized	xxx grs.
Subnitrate of bismuth	lx grs.
Chloral hydrate	xv grs.
Glycerine	i ʒ.
Oil of rose geranium	xv gtts.
Water	iii fl ℥.

Mix and write: Shake and apply one to three times daily. (For eczema.)

This formula in varying proportions of the water, or its substitution by an ounce of tincture of opium, constitutes a favorite local panacea for the many affections of the skin and mucous membranes.

The human body is the subject of many other pathological processes that are wholly or partially fermentative in character, that to describe would unduly increase the volume of this essay.

It has been my intention to take up the study of those diseases that are sufficiently representative to give fair illustrations of the relations existing between an etiology that may be more frequently the source of our afflictions than is generally supposed, and a treatment that up to the present time must be regarded as purely rational. I think I have so explained the principles here inculcated, that their application need not be confined to the abnormal fermentative effects chosen for our study, but rather that we may the better conduct the management of all diseases that can reasonably be classed as the results of fermentation.

CASES OF HARD CATARACT OPERATED ON BY MODIFICATION OF VON GRAEFE'S METHOD, BY PROFESSOR GEORGE E. FROTHINGHAM, FROM OCTOBER 1, 1881, TO JULY 1, 1882.

Tabulated from the report of W. J. BYRNES, Clerk of the Ophthalmic Clinic, 1881-82.

No. of Cases.	Date of Entering Hospital.	Name and Address of Patient.	Age.	Eye Operated on.	Anæsthetic.	Progress of Case.	Left Hospital.	Result.	Remarks.
	1881.								
1	Oct. 11.	Mrs. S. J. P., Bowling Green Ohio.	61	Right Eye.	Ether.	A thin membrane formed; secondary operation Nov. 7.	Nov. 16.	Good.	V. 20-40. Improving.
2	Oct. 18.	E. S., Big Springs, Mich.	62	Right Eye.	Ether.	Slight cyclitis.	Nov. 22.	Good.	V. 20-70. Improving.
3	Oct. 19.	O. S., Toledo, Ohio.	79	Right Eye.	Ether.	Slight iritis.	Nov. 22.	Good.	V. 20-50. Improving.
4	Oct. 19.	Mrs. P. S. R., Howell, Mich.	70	Right Eye.	Ether.	No complications.	Nov. 22.	Good.	V. 20-50.
5	Oct. 20.	Wm. R. W., Sumpter, Mich.	58	Left Eye.	Ether.	No complications.	Nov. 11.	Good.	V. 20-30.
6	Oct. 21.	Mrs. S. K., Grand Rapids, Mich.	82	Right Eye.	Ether and Chloroform.	Slight iritis.	Nov. 22.	Good.	V. 20-70.
7	Oct. 26.	Mrs. Van Z., Spencer Mills, Mich.	46	Left Eye.	Ether.	No complications	Dec. 2.	Good.	V. 20-40.
8	Oct. 31.	C. P., East Saginaw, Mich.	61	Right Eye.	Ether.	Suppurative iritis.	Dec 1.	Failure.	Patient had rheumatic diathesis and was careless.
9	Oct. 31.	R. L., Cassopolis, Mich.	66	Left Eye.	Ether & chlor.	No complications.	Jan. 15.	Good.	V. 20-40.
10	Nov. 2.	F. W. B., West Leroy, Mich.	45	Left Eye.	Ether and Chloroform.	Some soft lens matter left in ant. chamber, but all absorbed	Dec. 8.	Good.	V. 20-40.
11	Nov. 3.	Mrs. W. B., Everett, Mich.	48	Right Eye.	Ether.	No complications.	Dec. 5.	Good.	V. 20-50.
12	Nov. 4.	A. W. C., Boulder, Col.	71	Right Eye.	Ether.	No complications.	Dec. 19.	Good.	V. 24-70.
13	Nov. 10.	E. J. M., Fruitport, Mich	75	Right Eye.	Ether & chlor.	No complications.	Dec. 23.	Good.	V. 20-70.
14	Nov. 15.	C. S. F., Byron, Mich.	66	Right Eye.	Ether and Chloroform.	Severe iritis; pupil blocked up; secondary operation.	Jan. 28.	Improved.	V. 3-100.
15	Nov. 28.	C. B., Ashley, Mich.	73	Left Eye.	Ether.	Suppurati'n of cornea	Dec. 17.	Failure.	Patient feeble and cornea very thin
16	Dec. 7.	M. N. N., Belleville, Mich.	64	Left Eye.	Ether & chlor.	No complications.	Jan. 4.	Good.	V. 20-70
17	Dec. 12.	E. C. C., Fulton, Mich.	60	Left Eye	Ether.	No complications.	Jan. 10.	Good.	V. 20-40.
18	Dec. 22.	S. R., Weeping Water, Neb.	73	Right Eye.	Ether.	No complications.	Jan. 21.	Good.	V. 20-70.

19	1882. Jan. 10.	Mrs. A. L. W., Morencey, Mich.	66	Left Eye.	Ether.	No complications.	Jan. 28.	Good.	V. 20-40.
20	Jan. 21.	J. C. D., Bear Lake, Mich.	52	Right Eye.	Ether.	No complications.	Feb. 10.	Good.	V. 20-50.
21	March 6.	J. L. H., Fayette, Ohio	65	Left Eye.	Ether.	No complications.	March 21.	Good.	V. 20-40.
22	March 13.	A. L. S., York, Steuben Co., Ind.	64	Right Eye.	Ether.		April 5.	Good.	V. 10-100.
23	March 14.	H. W., Palmyra, Wis.	72	Right Eye.	Ether.	No complications.	April 5.	Good.	V. 20-40.
24	March 14.	Miss N. H., Almena, Mich.	54	Right Eye.	Ether & chlor.	No complications.	April 7.	Good.	V. 20-30.
25	March 24.	J. S. O., Charlotte, Mich.	64	Left Eye.	Ether & chlor.		April 17.	Good.	V. 20-70.
26	March 28.	M. J. P., Ransom, Mich.	48	Left Eye.	Ether.	No complications.	April 20.	Good.	
27	April 11.	A. W., Highland, Mich.	64	Left Eye.	Ether and Chloroform.	Iritis membrane formed.	May 1.	Good.	V. 10-100. Advised to return for secondary operation.
28	May 1.	C. P., East Saginaw, Mich.	61	Left Eye.	Ether.	Iritis, membrane f'd; secondary operation	June 23.	Good.	V. 20-40.
29	May 15.	F. D., Battle Creek, Mich.	66	Right Eye.	Ether & chlor.	No complications.	June 5.	Good.	
30	June 8.	R. A., Jackson, Mich.	72	Left Eye.	Ether and Chloroform.	Iritis.	June 28.	Moderate.	Left hospital before inflammation had subsided, but was improving.
31	Feb..3.	M. E., Hudson Town, Lenawee County. Mich.	87	Left Eye.	Ether and Chloroform.	Iritis.	Feb. 27.	Good.	
32	Feb. 24.	P. H., Clear Lake, Stephen County, Indiana.	68	Right Eye.	Ether.	No complications.	March 16.	Good.	V. 15-100.
33	May 18.	R. R. McK., Marine City, Mich.	73	Left Eye.	Ether.	Obstinate iritis.	June 10.	Good.	V. 20-70.
34	Jan. 9.	I. K., Holland, Mich.	25	Right Eye.	No anæs.	No complications.	Jan. 25.	Good.	V. 10-70. Never had normal vision.
35	April 11.	W. G., Reading, Mich.	46	Left Eye.	Ether & chlor.	No complications.	April 28.	Good.	V. 20-30.

The low degree of vision in many of the cases was due to the fact that the patients left the hospital in a condition to be improved by secondary operations, and they were advised to that effect in most cases, but were impatient to get away and were quite satisfied with the vision obtained.

Besides the above, there were, during the year, thirteen operations for other varieties of cataract as follows: Four hard, but complicated; three soft, one being complicated; two congenital; one capsular; three traumatic. All cases improved and results good in all but three that were severely complicated. There were also performed: Twenty-three iridectomies; eight needle operations; forty-six tenotomies, and a number of less serious operations, making a total of one hundred and ninety six operations.

The above includes only hospital cases treated gratuitously. The report of private cases will appear in some future number.

A REVIEW OF DR. FOSTER PRATT'S PAPER ON THE "LEGAL RESPONSIBILITY OF SURGEONS FOR UNUNITED FRACTURES" READ BEFORE THE MICHIGAN STATE MEDICAL SOCIETY; AND DR. MACLEAN'S REPLY TO THE SAME.

In our May issue we referred briefly to Dr. Pratt's paper. We now have it before us in full in the published transactions of the society. If the paper was not so long, or even if it had any real value, we would reproduce it here. It consists of a history of a suit for malpractice, instituted by one Burgert against one Dr. Lake, a homœopathic physician, both of Three Rivers, Michigan. We simply desire here to point out a few prominent characteristics of Dr. Pratt's paper. In the first place in presenting the history of the case to the State Society, Dr. Pratt did not mention the fact that Dr. Lake was a homœopathic physician. Indeed, from reading the paper one would think that Dr. Pratt endeavored to make the impression that his client (Dr. P. was in the case as medical expert for Dr. Lake) was an honored member of the profession. Was it fair and honest in Dr. Pratt to suppress the fact that Dr. Lake is a homœopath? We hold that it was not; for the fact that Dr. L. is a homœopath is sufficient to justify the suspicion that he is unacquainted with the teachings of the best surgeons. How many homœopathic physicians in the small villages of Michigan are even moderately well posted in surgery? In the second place, Dr. Maclean did not hear any of the defendant's evidence. He was given a hypothetical case and his answer was to this hypothetical case. This is not mentioned by Dr. Pratt. Was this honesty on the part of Dr. Pratt? The hypothetical case may have differed *in toto* from the case of Burgert, but Dr. Maclean gave his answers to the hypothetical case; and had Dr. Pratt loved truth half so well as he loved to condemn Dr. Maclean, he (Dr. P.) would have mentioned the fact that Dr. Maclean gave his evidence on a hypothetical case and without having heard the defendant's testimony. That the jury thought that the hypothetical case suited the one in hand was evidenced by the judgement of two thousand seven hundred dollars and costs. Another point we desire to mention. Although the fact that Dr. Lake is a homœopathic physician was brought out in the discussion before the society, the recording secretary fails to mention it in his report of the discussion. Was this omission intentional? It is also rather strange that the publication committee could refuse Dr. Maclean's reply after he had shown the gross inconsistencies of his assailant. It seems evident to us that the sole object of Dr. Pratt's paper was to attack Dr. Maclean. We think that this will be evident to any one from a perusal of the paper. Other features of Dr. Pratt's paper are brought out in the following reply to it by Dr. Maclean.—EDITOR OF THE PHYSICIAN AND SURGEON.

REPLY TO DR. PRATT'S PAPER.

BY DONALD MACLEAN, M. D.,
Professor of Surgery and Clinical Surgery in the University of Michigan.

Inasmuch as Dr. Pratt's paper was read during my temporary absence from the meeting; and inasmuch as the numerous references to my conduct and evidence were far from being complimentary, the society's sense of justice found expression in a resolution, unanimously adopted, permitting me to publish in the transactions any reply or counter-statement which I might deem requisite or proper. But for this considerate action on the part of the society, I should not have thought it worth while to burden the transactions with a defence of myself against any accusations or insinuations emanating from the pen of Dr. Pratt whose implacable enmity to myself personally, as well as to the University Medical Department, is a matter of general notoriety.

As it is I feel bound to place before the readers of these transactions a full and accurate account of my relations to the particular case referred to in Dr. Pratt's paper. Having done so I shall leave all questions of fairness or unfairness, of knowledge or ignorance, of right or wrong, to be decided by a jury, fortunately, well qualified to do justice between my assailant and myself.

Dr. Pratt's paper practically charges me with being ignorant of surgery, or dishonest as a witness, one or other, or both. In response I have no choice but to charge Dr. Pratt with having foisted upon the Michigan State Medical Society a *garbled, disingenuous* and *misleading* account of our respective relations to the case which he professes to describe "*succinctly but fully.*" My connection with the case of Burgert vs. Lake, commenced when the plaintiff came, of his own accord, to my public clinique at the University. During his stay there and throughout all my relations to him I did, and said everything in my power to discourage and prevent him from attacking his doctor in a suit for malpractice.

Every student, medical man and nurse, who knew anything about the matter could testify to this fact, and on the trial unequivocal evidence was given to this effect, not only so but I solemnly swore that my invariable rule of practice is to act the part of peace-maker and use any influence which my position may give me in preventing such suits, which so commonly prove to be unjust and oppressive.

Dr. Pratt's paper conveniently suppresses all reference to this testimony. If Dr. Lake was dragged into court it was done as the testimony clearly proved, *in spite of my utmost endeavors to preserve him from such a calamity.* Dr. Pratt's paper in its very first paragraph slyly conveys the insinuation that the reverse was the case.

I shall not stop to characterize this treatment of me but submit that it was decidedly disrespectful to the learned society to whom his paper was addressed.

Dr. Pratt professes to give in detail an authentic description of the treatment which the injured man received at the hands of Dr. Lake, to which is appended an account of the patient's constitutional history and that of his family, and then he asks with great show of virtuous indignation: "These facts being established, what warrant has any surgeon testifying as an expert in a suit for malpractice, to declare that non-union *in such a case as has been described, with treatment as described*, is due to "bad surgery," or to "meddlesome surgery?" (The italics are mine.) Dr. Pratt's egregious disingenuousness will appear when it is stated that my testimony was *not given in reference to any such case as that which he described. My testimony had reference entirely to a hypothetical case put to me by the counsel for the plaintiff.* I knew nothing of the details of Burgert's accident or Dr. Lake's treatment of him. I had never permitted him to talk to me on the subject, and at any rate such second-hand information could not have been admitted as evidence.

True, I heard Burgert's testimony in court on his own behalf, also that of some of his witnesses, and certainly where-ever Dr. Pratt obtained the account of the treatment as given in his paper it *was not from these sources.* He *may* have got it from the witnesses for the defence, in short he must either have obtained it in that way, or else he must have dreamed it. Dr. Pratt acting in the capacity of medical counsel for the defendant, had the advantage of hearing both sides of the story, while I, being simply witness for the plaintiff, heard only a part of one side and that differed "*toto cœlo*" from the case described in Dr. Pratt's paper. The hypothetical case upon which my evidence was based was as follows: "A young man suffers an oblique fracture at or about the surgical neck of the humerus by direct violence, three or four short wooden splints are applied over an initial roller, the splints are removed daily and the fractured ends are manipulated, is that good surgery? Would a case so treated have a *fair chance* of union?" My reply was that it was bad surgery and that it was meddelesome surgery, and that although other causes, constitutional or local, *may* have co-operated and although non-union will sometimes occur in cases which have had the most careful and skillful treatment, still the fact had to be admitted that such treatment did not do the broken bone justice or give it a fair chance of recovering itself. Dr. Pratt will no doubt be surprised to learn that my evidence on this point was emphatically endorsed by Professor Sayre and the whole of the surgical section of the American Medical Association during the late meeting at Saint Paul.

Dr. Pratt had every possible opportunity to note the salient points of this trial. The lengthy and minute account which he affects to give in his paper is a full admission of this fact. In what terms then shall we designate his willful suppression of the fact of my evidence having been based entirely upon a hypothetical case? It is only fair to suppose that Dr. Pratt had some strong reason of his own for failing to mention this fact and for not stating precisely the language of the hypothetical case. I have no inclination nor inducement to shirk one iota of responsibility for my sworn opinions on this or any surgical subject, but I do object to having my evidence in regard to one case transplanted by Dr. Pratt and made to apply to another and an entirely different one. It is possible that the testimony for the defense (*which I did not hear*), was such as to justify the description of Burgert's treatment as given by Dr. Pratt in his paper. I can only assert that his description does not in the slightest degree correspond with the hypothetical case put to me and upon which my expert testimony was based. It seems to me that Dr. Pratt practiced a most unwarrantable imposition upon the Michigan State Medical Society, when he professed to give a full account of the trial while he studiously avoided all reference to the fact of a *hypothetical* case having been made the basis of my testimony.

But these were not the only points on which the author of this lengthy and pretentious paper, stoops to hoodwink and mislead the State Medical Society and the public. The most careful scrutiny of his paper fails to give the slightest hint as to the professional standing of this so-called Dr. Lake. The impression inevitably conveyed by Dr. Pratt is that Lake was a professional brother, entitled to all the confidence, respect, courtesy and consideration of a well qualified, upright, careful physician and surgeon in good and regular standing. I have the personal assurances of a large number of the gentlemen who listened to the reading of the paper, that this was the impression which they received on this point, and by the same gentlemen, I was also assured that when I stated to the society the fact of Lake's being neither more nor less than an avowed homœopath, they were shocked and disgusted on two accounts:

(1) That Dr. Pratt should have taken such a liberty as to trifle with the association to the extent of suppressing or evading so important and relevant a fact.

(2) That a member and an ex-president of the association should have lent himself to the business of *consulting*, *associating and pettifogging* with an individual whose sectarian and exclusive pretentions were sufficient to proclaim him an enemy of scientific medicine, unworthy of recognition by respectable medical men. Subpœnaed as a witness for such a man, the simple truth was all that he had any right to expect from a member of the medical profession.

From Dr. Pratt he got a good deal more, he got at least a whole week's services in the capacity of *medical counsel with the result as stated in the opening line of Dr. Pratt's paper.*[*]

The code of ethics may wink at such association with irregulars and Dr. Pratt may have a perfect right to gratify his personal tastes by such association, but I do not believe that his example will be emulated by *respectable members of the medical profession.* At all events, there is no doubt that Dr. Lake *is* notoriously a *homœopath* and that in Dr. Pratt's "succinctly but fully" recorded history of the case to the Michigan State Medical society he judiciously concealed that fact.

The jewel like character of Dr. Pratt's consistency is illustrated by the fact, that as a member of the nominating committee of the American Medical Association at its late meeting, he violently and successfully opposed my nomination to an honorable office in the association on the ground that I am *engaged in the education of homœopathic students. A statement which has no shadow of a foundation in truth, and no man knows this better than the veracious and consistent individual who made it.*

Dr. Pratt in his paper to the State society favors his readers with a prolix rehearsal of many of the long known and universally recognized causes of non-union. He is candid enough to refrain from claiming any originality in the recital of this oft told tale, but he is *not* candid enough to mention the somewhat relevant facts, that in my capacity as expert witness in the case of Burgert vs. Lake, I had testified in the clearest possible manner as to the existence and efficiency of all, or nearly all these causes.

On the contrary, Dr. Pratt leaves his audience to infer that my surgical opinions and my evidence in court were antagonistic to the doctrines which he had so industriously collated from authorities whom he condescends to endorse.

This may be skillful guerilla warfare, it may be a convenient and agreeable method of gratifying personal spleen, but was it fair and honorable treatment of the society which he had the honor of addressing and before whom if anywhere, he was bound to speak the truth candidly and fairly. There is, however, still another point in regard to which Dr. Pratt took the liberty of dealing unfairly and uncandidly with the society which had shown him so much respect. In my testimony I described among the many causes of non-union of the humerus one which includes within itself a suggestion as to the means of supplying the remedy.

I refer to Dr. Frank Hamilton's theory of the cause and his method of avoiding it. Had poor Burgert been fortunate enough to have had the advice and assistance of even a young graduate of this school (perhaps I should say from any regular school); instead of the homœopath Lake, I have no doubt that the danger of non-union would have been detected in time, and the method so ingeniously worked out and so strongly recommended by Dr. Hamilton and others been used to avert the calamity.

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[*] "Damages for two thousand seven hundred dollars and heavy costs of trial."

The erudite Dr. Lake had probably never heard of Dr. Hamilton or his views on this subject, and as he neither sought nor obtained advice from any quarter in the management of the case this valuable method of treatment was not tried. May we not enquire of Dr. Pratt why his exhaustive (?) paper contains no reference to my testimony on this important point? Is it due to his tender consideration for the feelings and reputation of his homœopathic friend and client? Or is it because he (Dr. P.) is unable to agree with Dr. Hamilton's teachings and practice in this particular and therefore regards my reference to it in my evidence as immaterial and irrelevant?

To most people it will look as though Dr. Pratt had deliberately elected to sink the interests of truth, of justice, and of scientific surgery in his determination to implicate me and shield his homœopathic client, Dr. Lake.

To illustrate the bearing of this part of my testimony upon the case of Burgert vs. Lake I will venture to quote here a case recorded by myself in which the principles referred to were tested in actual practice.

The case was published in THE PHYSICIAN AND SURGEON for May, 1880:

"A CASE OF UNUNITED FRACTURE OF THE HUMERUS..

"Dr. H. S. Cole, of Morenci, Michigan, had the misfortune to be one of the sufferers by the collapse of the grand stand at Adrian, October 2, 1879. Among other injuries of minor importance his right humerus was fractured at two points: (1) a transverse fracture three inches or thereabouts from the shoulder; (2) an oblique fracture at lower part of middle third. The doctor states that the first dressing consisted of a roller bandage from elbow to shoulder, over which four pasteboard splints were applied wet and moulded carefully to the part. These splints were removed next day, lined with cotton batting and reapplied. The forearm was placed at a right angle and bandaged from the fingers all the way up. In three weeks the upper fracture had united, the lower had not, crepitus could still be felt, and there was no sign of union. Their was neither redness, swelling, nor soreness at the point of fracture. Nine weeks after the accident, the patient was anæsthetized and the ends of bone were rubbed freely together. Two weeks after this, or eleven weeks after the injury, Dr. Cole visited me with the view of having the ends of bone resected. I counselled milder measures, and called his attention to Dr. F. H. Hamilton's theory as to the cause of non-union in fractures of the humerus, namely, the stiffening of the elbow joint and the consequent unfavorable character of movement which takes place between the upper fragment of the humerus and the rectangular lower fragment, which, in reality, consists of the lower fragment of the humerus and the fore-arm, (the elbow being temporarily anchylosed). The to-and-fro movement thus produced at the seat of fracture being unfavorable to union, Dr. Hamilton has in several instances departed from the commonly accepted practice of placing the forearm at a right angle, and has treated the fracture of the humerus by splints applied from the shoulder to the hand in the straight position, thus securing instead of the to-and-fro movement, which is unavoidable in the rectangular position, either no movement at all or movement of the two bones on each other at the seat of fracture as on a pivot. (See Hamilton on Fractures and Dislocations, fifth edition, page 282 et seq). Well pleased with the hope of escaping a serious operation, Dr. Cole returned to his home and proceeded first of all by hot fomentations, friction and passive movements to break up the fibrous anchylosis and straighten his elbow joint. This process, the doctor informed me, took two weeks. Having straightened his fore-arm fully and the non-union still continuing, the doctor adopted my advice and had a starch bandage applied from the shoulder to the hand. This was removed in two weeks, but as there was still movement at the old spot the bandage was reapplied. One week later union had not actuallv occurred, but there was thought to be a distinct improvement. At the end of another week union was found to have taken place. Having waited two weeks for the union to become quite solid, the patient set about the task of remedying the effects of carrying his arm so long in this position. These were: (1) stiffening of the elbow joint; (2) a tendency of the head of the humerus to drop down like a partial laxation; partial muscular paralysis. Electricity (the interrupted current), passive movement, efforts at voluntary muscular action, manipulations, etc., are the means he is using, and the last report, received some weeks ago, was as follows:

"Can flex the fore-arm to a right angle without any assistance, and with a little help can raise it a few inches higher. This power of movement has all been gained within the last two weeks. Pronation and supination to three-fourths of full extent. The muscles of the shoulder joint are rapidly regaining their tone and the shoulder joint its natural form, so that on the whole I have got a good, straight arm, without anv deformity. Congestion of hand, from the straight position, caused me no inconvenience."

This case and others equally successful reported by Hamilton himself seem to give strong support to the principle involved and it certainly appears that in justice to his audience, to say nothing of me, Dr. Pratt was in honor bound to have set forth in his elaborate paper this portion of my testimony together with his own ideas and experience in the matter *if he had any.* To have utterly ignored it is in my opinion a serious reflection upon his candor as a critic, as well as upon his erudition as a student of surgery.

In conclusion I desire to say that Dr. Pratt by a persistent course of action has succeded in establishing his fame as a malevolent persecutor of the regular Medical Department of this University; but as his persecution has always been of the same frivolous and puerile character as in this instance, any harm which has resulted has not been to the University. On the contrary the ever increasing prosperity of the institution cannot fail to be a source of gratification to its friends, and of confusion to its foes.

The essential point aimed at by Dr. Pratt in his lengthy and laborious article may be accurately apprehended by a perusal of its closing paragraphs as follows:

"Mr. President and gentlemen, this history of a case, of a trial and its results, is full of interest to each and all of us. You may be called any day to treat a broken limb. If when and because the bones do not unite you are subjected to suit of mal-practice, you may suffer damages and professional disgrace from a verdict founded, possibly, on the testimony of one whose position, more than his professional knowledge, gives his opinions influence—factitious influence—with the jury. You may, on such evidence, be held responsible in heavy damages, as for mal-practice, because of the constitutional defects of your patient—defects which you cannot remove nor control and which the average jury neither knows nor can fully understand. It is, in one sense, fortunately true, for people and surgeons, that instances of non-union of fractured bones are of rare occurrence; but *we* are in especial danger because of the very rarity of the result. The people, from whom juries are drawn, are not familiar with this peculiar misfortune and its many causes, and they find it easier to blame the doctor than the constitution of his patient.

The opinions held and testified to in this case by a member of this society and detailed in this paper, are legitimate subject of professional criticism and discussion. If, after full discussion, they are found to be scientifically sound, we should know it and govern ourselves accordingly; but if they are unsound, it is incumbent on us to proclaim that the medical opinion of this State, and the weight of medical judgment everywhere are against his conclusions; to the end, that the forms of law may not again become the means of injustice, to other doctors, who may happen unfortunately, to have patients whose vital powers are not sufficient to repair their broken bones, and if more such cases occur and any of us be called to testify as experts, we will find a safe guide in the wise utterance of Dr. Noris of Philadelphia, whose treatise on "Ununited Fractures" is declared, by Dr. Frank Hamilton, to be the "most complete and reliable monograph on this subject contained in any language." To this careful and modest but scientific and skillful surgeon, one of the writer's mentors in surgery, grateful acknowledgments are hereby made of the great benefit received from his teachings on this and on many other subjects. This skillful, cautious, and conscientious surgeon declares: '*So often, indeed, does non-union occur after the most regular treatment, that we should be cautious in ever attributing this state of things to any fault of the surgeon.*'"

The foregoing paper was sent by me to Dr. Ranney, the recording secretary of the State Medical Society for publication in the forthcoming volume of Transactions.

The manuscript was returned to me with this letter:

"MICHIGAN STATE MEDICAL SOCIETY, LANSING, MICHIGAN, June 28, 1882.

"DONALD MACLEAN, M. D.: *Dear Sir*—I am instructed by the Committee on Publication to return to you your reply to Dr. Pratt's paper read before the society at its late meeting.

"The committee do not feel authorized under the resolution adopted by the society, to publish those portions of your article reflecting on the character and motives of one of the society's members. Yours truly, GEO. E. RANNEY."

In view of all the facts of the respective relations of Dr. Pratt and myself to the case in question, the fair-minded and impartial reader will in my opinion be at a loss to decide which is most deserving of censure: Dr. Pratt's effort, with its sophistical arguments, unwarrantable insinuations and uncandid statement of facts; or, the committee's sense of justice in accordance with which they decide to publish his unprovoked and unmanly attack, while they exclude *my simple matter-of-fact statement in reply.*

MEDICAL NEWS.

MESSRS. REED & CARNRICK are presenting to the profession some new forms and combinations of their well-known preparations. Liquid lactopeptine and maltine wine with pepsine and pancreatine are elegant forms.

OUR colaborer, Professor Octerlony, has been tendered the chair of materia medica, therapeutics and clinical medicine in the University of Louisville. We congratulate the faculty of the University upon this addition to their number.

DR. MILLS (*British Medical Journal*), mentions a case in which all the symptoms of angina pectoris followed the local use of ergotine (fifteen grains to the ounce of glycerine) for a laryngeal growth. The symptoms disappeared on discontinuance of drug.

It is the opinion of Dr. Sewell and many other members of the Odontological Society of Great Britain that the popular belief, that the extraction of teeth in pregnant women is likely to produce abortion, is fallacious. They give nitrous oxide and remove the tooth whenever necessary.

Dr. Smith (*British Medical Journal*) urges the value of codeia in diabetes mellitus. He begins with one grain three times per day and increases the dose gradually, in one instance giving nine grains three times per day. He claims that its action in diabetes is as beneficial as that of morphia, while the codeia is free from the many objectionable features of the morphia.

Dr. Cavafy (*British Medical Journal*), uses a solution of boracic acid, twenty grains in an ounce of spirit, to which a drachm of ether is added, in ringworm of the scalp. He directs that this lotion be forcibly rubbed into the affected parts of the scalp with a rag or moderately stiff brush three times daily, the whole head being ordered to be washed every morning with plenty of soap and hot water.

Dr. Henry (*British Medical Journal*) presented to the Dublin Obsterical Society an asexual fœtus: "The intestine ended in a fleshy tumor, hollowed and flattened, from which two small pockets extended down about three-quarters of an inch. There was no opening into it except that from the intestine; yet it was the sole representative of the kidneys, bladder, rectum and genitals." The child was otherwise thoroughly natural in form. The *cul-de-sac* was filled with yellow fluid like bile.

J. Braxton Hicks recommends, in all cases of abortion where a plug is needed, the use of a cervical, rather than a vaginal, plug. The pain is not so great and there is less danger from decomposition. The compressed sponge tent is the best form, and the sea tangle tent cannot be used on account of its slipperiness. The sponge tent is placed in the os and held in position by a piece of sponge, with tape attached, in the upper vagina. He states that a cervical plug can be extemporized from materials found in any house as follows: "Take a stick about a foot long, and taper it at one end to about the size of a uterine sound, or rather larger; wind round this end, for about three inches down, strips of cambric, lint or sponge to the required thickness, judging from the size of the os. Strips of sponge can be readily obtained from cup-shaped sponges of compact texture, and they can be tied on by thread, layer after layer, till the requisite conical form is obtained. The strips of the other material can be laid on similarly. After the covered end has been well greased, it is passed into the canal, and the stick retained *in situ*, after the manner in which we tie in a catheter, an elastic tape, if obtainable, is to be preferred."

Dr. Yeo (*British Medical Journal*) in speaking of the communicability of phthisis refers to the following interesting case reported by Dr. Weber some years ago. "A young man, who had lost his mother, two brothers and a sister of phthisis, and who himself had twice had hemorrhage from the lungs, had quite recovered and married at twenty-seven years of age, being then perfectly well. His first wife was in good health, and came of a healthy family. She died of consumption after her third confinement. The man shortly married again, an apparently healthy woman, and this second wife, after a year of married life, died of galloping consumption. He married a third wife, a healthy young woman of twenty-five, belonging to an exceptionally healthy family. During her second pregnancy she developed symptoms of phthisis, which ran a rapid course, and ended fatally in about eight months. Undaunted by his previous experience, this man, who seems to have had a mania for matrimony, married a fourth wife, a perfectly healthy woman, twenty-three years of age, of healthy family antecedents. Three months after her first confinement, she too began to show symptoms of phthisis, and, notwithstanding two sea voyages, died after an illness of nine months, with tubercle in liver, spleen and intestines, as well as in the lungs. Though the husband of these four wives, who was a sailor, remained in apparently good health, physical examination revealed the existence of morbid changes about the apex of the left lung. It is possible the life at sea kept his disease in abeyance; for when he had to lie by on account of a severe fracture, the disease became active, and he died of consumption within two years."

SELECTED ABSTRACTS.

POISONING BY CASTOR OIL.

An inquest was recently held by the coroner for Central Middlesex which serves forcibly to illustrate the necessity for care in the administration of purgatives to children. From the evidence, it would appear that a woman purchased some castor oil and gave her child—only a month or two old—"a dose," thinking that its "stomach was out of order," and that it might do it good. A severe convulsion followed, in which the child died; and the doctor who was called in expressed a decided opinion that death had resulted from the treatment. The coroner said that the practice of giving young children aperients whenever they seemed unwell was one of the most dangerous and pernicious with which he was acquainted. It could not be too generally known that, when a child vomited, the stomach and intestines became absolutely empty, and collapse might ensue. Parents should be careful to get cold-drawn oil, for many of the preparations sold were only fit for horses, and, if administered to a child, might set up intense irritation, and cause convulsions and death. Whilst coinciding with the coroner in his remarks on the necessity for caution in the administration of aperient, we think there is one other point to which it may be as well to call attention. It appears not to be generally known that castor oil is very commonly adulterated with croton oil to increase its activity. Cases of death from castor oil alone are very rare; and we entertain no doubt that, in the case now under consideration, the fatal termination was due to a more powerful irritant.—*Lancet.*

DIALYZED IRON IN TREATMENT OF ARSENICAL POISONING.

BY A. M. BULLARD, M. D., WICKES, MONTANA TERRITORY.

It is not my intention to enter into an exhaustive paper on the subject of Arsenical Poisoning, but simply, as a duty, to lay before the profession what I consider a most valuable aid, the administration of dialysed iron. In the smelting of lead and silver ores, one of the worst features is the constant inhalation of arsenical fumes. When first employed by the Alta Montana Company, to take charge of their hospital, a number of cases of arsenical poisoning came under my observation, and they were the more difficult to treat on account of their complication with "leading." I tried the various remedies recommended for such cases, with but poor results. At times I felt that the old saying, "Throw physic to the dogs," was but too true and applicable. At last I was led to try dialysed iron, and was met in all cases with most gratifying success, as is evidenced by the following cases: Two carpenters were engaged in roofing a portion of the smelting building, and were in such a position that the wind carried the fumes into their faces. Some workmen below noticed one of the men swaying to and fro, and about ready to fall, while the other was laboring hard to reach the ground. They were helped to the hospital, and were suffering with severe pain in stomach and bowels, nausea, vomiting, vertigo, and with a profuse "nose-bleed," tremor in lower limbs, and almost prostration. A wineglassful of dialysed iron was given immediately. The nausea ceased, and at the end of one hour the men were able to walk to their cabins, carrying with them a bottle of the iron, to be taken in drachm doses every half hour. At the end of twenty-four hours they complained only of weakness, such as would result from a severe diarrhœa. The second day they resumed work, entirely free from all pain and effects of the arsenic. A number of men employed about the smelting furnace, and especially in dipping the molten lead, have been apparently prostrated, from the effects of the fumes, and were in every case relieved by dialysed iron. A mild purgative was given within twelve hours. I have recommended, and, indeed, insisted on, every man who is exposed to the arsenical fumes, taking a dose of the iron daily. The consequence has been, that we have had but one case of poisoning needing hospital treatment, and this one insisted that his case was one of "indigestion and dyspepsia," and would take nothing till compelled to enter the hospital, where, under the administration of dialysed iron, he speedily recovered.

In the past two years, I think I am safe in saying that fully two hundred cases of arsenical poisoning have been cured in this camp by dialysed iron. I could cite any or all of them, with symptoms, treatment, etc., but I think it unnecessary, as they so nearly resemble those already mentioned; suffice it to say, that all experienced the nausea, griping, vomiting, muscular tremor, etc. I have given the iron in half ounce doses, three times daily, with no constitutional disturbances whatever, even after ten and often twenty days administration. The teeth are not discolored, bowels not constipated, and digestion not deranged.

The men have learned its virtues, and come regularly with "please fill my iron bottle again." They will not do without it, any more than an Irishman will do without his "salts and senna." It has saved many a man his wages and many a day of sickness. In fact, I feel convinced that this preparation is indispensable where men are liable to inhale the fumes of arsenic.

Without a remedy of this kind, I am satisfied no man, however strong, could inhale the fumes incident to smelting, where the ores contain arsenic, and stand it more than three or four days. I can fully and confidently recommend this preparation of iron to the profession, and even to foremen of smelting works, where there is no physician, for it is harmless and invaluable. "An ounce of prevention is worth a pound of cure," or a "pound of cure," is worth infinitely more to a company, than are hospitals full of men poisoned with arsenic. Our hospital has been built, medicines bought, physicians and nurses paid, and accommodations for thirty beds provided, inside of two years, by a small monthly assessment on each miner and laborer employed by the company, and all are satisfied; none more so than the smelter hands, who can and do get a "bottle of that iron," and keep at work.

The preparation which I have used, and to the good effects of which I can testify, is Wyeth's of Philadelphia.—*Medical and Surgical Reporter.*

THE

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ORIGINAL ARTICLES.

THE COMPOSITION OF THE URINE IN A CASE OF CANCER OF THE LIVER.

BY VICTOR C. VAUGHAN, M. D., PH. D., AND HARRIET C. BERINGER, B. A.

Believing that true ideas concerning both physiological and pathological processes in the human body can be arrived at only after the collection of a great number of facts, we determined to make through quantitative examinations of the urine in all cases of serious disturbance of certain organs—as the liver, heart and lungs. The liver especially plays an important part in the elaboration of certain urinary constituents, and no doubt the time will come when we shall be able to diagnose and differentiate diseases of this organ by an examination of the urine with as much certainty as we are now able to distinguish the various lesions of the kidney. Indeed, so far as many of the important constituents of the urine are concerned, the liver is a formative organ, while the kidney is to a large extent, though probably not altogether, simply an organ of elimination. Notwithstanding this, however, but little systematic work has been done with the object of ascertaining the relations between diseases of the liver and the composition of the urine. This work is of physiological, as well as of pathological interest; for while we should be careful in drawing conclusions concerning physiological processes from the changes occuring in pathological states, these facts may aid us in confirming or denying certain unsettled physiological questions.

For instance, it is now supposed by many physiologists that the leucin and tyrosin, formed in the small intestine during pancreatic digestion, are broken up in the liver into urea and uric acid on the one hand, and a non-nitrogenous substance (probably glycogen) on the other. Now, if in certain diseases of the liver, leucin and tyrosin appear in the urine, we have a confirmation of the experiments of the physiologist. Certainly it is our duty to gather, whenever possible, facts concerning either physiological or pathological processes, and it was with this spirit that we have done this work. The facts ascertained may, we hope, contribute something to our stock of knowledge.

History of the Case.—April 4, 1882, one of us was called to see H. J. B., aged fifty-four, a lawyer, who stood high in his profession and had always been a hard student, doing a large amount of professional work. He had enjoyed excellent health until two years before, when a small tumor appeared in his right eye. The tumor grew rapidly, was diagnosed a sarcoma and was enucleated with the eye. For eighteen months after the removal of the eye, Mr. B. enjoyed excellent health, and frequently remarked that he "never felt better in his life." Last January he suffered from a febrile state with evidences of local inflammation of the stomach and duodenum. When seen April 4, all febrile symptoms and evidences of gastric inflammation had disappeared. The abdomen was greatly distended, the liver enlarged and the nodules on its surface could be distinctly felt through the abdominal walls. These conditions together with the history of the sarcoma of the eye rendered the diagnosis of cancer of the liver easy. At this time the appetite was moderate, and there was no disturbance of stomachic digestion, nor had there been for several weeks; but emaciation had gone on rapidly. From this time on, the appetite gradually failed, although only twice was there nausea. The food consisted of milk and beef juice.

Recognizing the fact that the patient was in a hopeless condition, no very active medication was used. A little digitalis and squill, with at first the occasional addition of one-sixteenth of a grain of elaterium, to relieve the distention, and morphia and atropia during the last few days to allay the pain and arrest the exhausting perspiration, with small doses of the tincture of nux vomica for flatulency, constituted the medical treatment. We have given only so much of the history as we deem necessary to a proper understanding of our work.

Coloring matters of the Urine.—The urine, when first passed, was of a brownish-red or brick dust color. On standing the urates were deposited, and the sediment was a dark-red and the supernatant fluid reddish-yellow. If a specimen was allowed to stand for some days, the sediment grew darker and finally became dark-brown. Following Thudichum,* we obtained the three coloring matters, urochrome, uerythrine and uromelanine. The first two undoubtedly existed in the urine when first passed, the uerythrine adhering for the most part to the urates and giving the color to the sediment; while the uromelanine was probably a decomposition product, or at least it increased in amount as the urine stood.

Accepting the general belief, that these urinary pigments are formed from bile pigments, we expected that the autopsy would show the presence of bile-pigments in the gall bladder or ducts. No bile pigments proper could be found in the urine. This was another important fact as it indicated that the transformation of bile into urinary pigments, wherever it takes place, continued. Nor could any indican be found, although Jaffé and Hoppe-Seyler say that the amount of indican is largely increased in carcinoma of the liver. The discusion of the significance of the coloring matters of the urine will be returned to after giving the results of the postmortem examination.

The Compositiom of the Urine.—In all cases, the urine for twenty-four hours was carefully collected in a urinal and exact measures made. The urea and chlorides were estimated by titration with mercuric nitrate according to the methods of Liebig. The uric acid was precipitated by the addition of hydrochloric acid, collected upon tared filters, dried and weighed. The phosphoric acid was precipitated with uranic acetate, and calculated as P_2O_5. The sulphuric acid was estimated with barium chloride and calculated as SO_3. After the sulphuric acid had been estimated in one portion, another part was thoroughly oxidized by being heated with chemically pure black oxide of manganese and hydrochloric acid, and the sulphuric acid again estimated. From the differences in these weights we calculated the amount of sulphur existing in the urine in organic combination.

At this point the following questions arose: (1) Is there any unoxidized sulphur in normal urine? and (2) in what form does the large amount of unoxidized sulphur, found to be present in this specimen, exist? In order to answer the first question we requested Mr. E. Stinson to make a number of estimations of the sulphuric acid in normal urine, before and after oxidation of the organic matter. His results are given in detail in another paper communicated by himself. He found as an average of ten analyses that two hundred cubic centimeters of normal urine contains .0027 gram of unoxidized sulphur; while, as will be seen by reference to the table, two hundred cubic centimeters of the specimen under consideration contained, May 10, .222 gram of unoxidized sulphur, nearly one hundred times the amount found in the same quantity of normal urine. The

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*Pathology of the Urine, page 210, *et seq.*

traces of unoxidzed sulphur in normal urine probably exist in the epithelial debris which is constantly present, and which is generally considered as mucus. The abnormal specimen contained no excess of this debris and was free from all forms of albumen. Then in what form did the great excess of unoxidized sulphur exist? We thought at first of cystin, ($C_3H_7NSO_2$), and thorough search in a number of specimens for this substance was made, but with results invariably negative. We next make tests for taurin, ($C_2H_7NSO_3$), as follows: Boil the urine for three hours with dilute hydrochloric acid (five per cent. of the acid being added to the urine);* filter and evaporate the urine to dryness on the water-bath; extract the residue with absolute alcohol; treat the part insoluble in alcohol with water and filter the aqueous extract; concentrate the filtrate and allow to cool, when taurin crystalizes; dissolve the crystals in dilute spirits; add lead acetate; treat with hydrosulphuric acid gas and filter; evaporate the filtrate and wash the residue with absolute alcohol; dissolve the part insoluble in alcohol in water; filter the aqueous solution, concentrate and allow to cool, when pure taurin crystallizes.†

That no mistake should be made, we did not rely wholly upon the microscopical appearance of the crystals; but an aqueous solution of some of the crystals was boiled with calcium chloride, and the mixture concentrated when needle-shaped crystals of Ca ($C_2H_6NSO_3$) were found. We also obtained the tablets of Ag ($C_2H_6NSO_3$).

The taurin was found to be present in considerable quantity. We do not say that all the unoxidized sulphur existed in the form of taurin; but we have so calculated it in the table. Undoubtedly a large part of the sulphur existed in this form, and we are ignorant of other sulphur-bearing compounds that may have been present. It is an important fact, that no bile acid could be detected in the urine; the taurin, therefore, did not exist as taurocholic acid.

Tyrosin and leucin could be detected in many of the specimens by microscopical inspection even before concentration, and in all, after concentration. The estimations of the amounts of tyrosin and leucin were made as follows:‡ Filter the urine to remove the deposit of urates; wash the filter with a little water and unite the filtrate and wash-water; concentrate nearly to dryness and allow to cool; redissolve in water rendered feebly alkaline with ammonium hydrate and boil; to the hot solution add basic acetate of lead until a white precipitate forms and remains on being agitated; filter, heat the filtrate to boiling and saturate the ammonia with dilute sulphuric acid, which also precipitates the excess of lead; filter through a fast filter and allow to cool when the tyrosin cyrstalizes. Decant the supernatant fluid which contains the leucin. Redissolve the tyrosin in water and filter; acidify the filtrate with acetic acid, concentrate and allow the tyrosin to again crystallize; repeat this until the crystalline mass is perfectly white, then collect upon tared filters, wash with alcohol, dry and weigh. Treat the fluid containing the leucin with hydrosulphuric acid gas to remove traces of lead; filter, to the boiling filtrate add an excess of recently precipitated hydrated oxide of copper and continue the boiling for a few minutes. A precipitate is formed and contains a part of the leucin. Collect this precipitate, suspend in hot water, acidify with acetic acid, treat with hydrosulphuric acid gas, and remove the precipitated copper sulphide by filtration; decolorize the filtrate with animal charcoal, and concentrate to a small volume. On standing, pure leucin crystallizes. The other part of the leucin is in the blue solution which has been boiled with the oxide of copper. On evaporating this solution, a blue colored compound of copper and leucin remains. Dissolve this in water, treat the solution with hydrosulphuric acid gas, filter and concentrate the filtrate, when, on cooling, leucin forms in needle-shaped crystals. Unite the two portions of leucin. Purify by recrystallization; collect on a tared filter; wash with cold absolute alcohol; dry and weigh.

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*As the taurin in this specimen was uncombined, boiling with acid was not necesssary; but it facilitated the removal of the uric acid.

† Vaughan's Chemical Physiology and Pathology, Third Edition, page 51.

‡ Vaughan's Chemical Physiology and Pathology, Third Edition, page 140.

We do not claim that these estimatiens of tyrosin and leucin are exact. They are only approximations, but the results are most likely too low rather than too high. The tyrosin was obtained in a snowy white crystalline mass; but the leucin could not be wholly freed from traces of coloring matter. On account of the length of time and the care required, only two estimations of tyrosin and leucin were made, and so far as we know, these are the first attempts made to estimate the amount of tyrosin and leucin in urine. It is not to be supposed that the amounts as we found them are equal to those formed during pancreatic digestion in healthy individuals. Our patient at this time was taking but a very small quantity of food.

In the following tables the amounts are given in grams. The patient died at 5 A. M. May 18. The urine passed on the 17th was examined and found to contain about the same proportion of urea as that of the preceding day, but as some of the urine was accidentally lost, no estimation for the twenty-four hours was made.

It would have been of interest and, no doubt, of value, could analyses of the fæces have been made. But on account of the debility of the patient, they could not, without inconvenience to him, be collected.

TABLE SHOWING THE COMPOSITION OF THE URINE.

Date.	Amount.	Specific gravity.	Urea.	Uric acid.	Proportion of uric acid to urea.	Sulphuric acid, (SO_3).	Sulphur in inorganic state.	Sulphur in organic state.	Proportion of sulphur in inorganic to that in organic combination.	Taurin calculated from unoxidized sulphur.	Phosphoric acid (P_2O_5).	Tyrosin.	Leucin.	Chlorides, Na Cl.
April 11.....	500 c. c.	1028	14.4	.80	1 to 18	.35	.14	.42	1 to 3	1.64	2.47			1.2
April 16.....	440 c. c.	1027	16.28	.65	1 to 25	.25	.10	.39	1 to 3.9	1.52	2.38	3.10	4.80	2.64
April 19.....	500 c. c.	1026	16.8	.70	1 to 24	.42	.168	.40	1 to 2.38	1.56	2.48			2.10
April 27.....	540 c. c.	1028	14.58	1.20	1 to 12	.54	.216	.48	1 to 2.22	1.87	2.16			2.94
May 1.....	550 c. c.	1025	18.36	.60	1 to 30	.70	.280	.57	1 to 2	2.22	2.47			2.59
May 9.....	440 c. c.	1025	16.72	.80	1 to 20.9	.54	.216	.396	1 to 1.08	1.545	3.128			1.10
May 10.....	400 c. c.	1026	15.20	.85	1 to 17.8	.28	.112	.444	1 to 3.95	1.731	3.52			1.20
May 11.....	420 c. c.	1025	16.80	1.10	1 to 15.3	.26	.104	.500	1 to 4.8	1.953	2.94	2.70	2.56	1.22
May 12.....	430 c. c.	1024	16.20	1.00	1 to 15.2	.26	.104	.429	1 to 4.12	1.676	2.83			1.10
May 13.....	620 c. c.	1022	18.60	.93	1 to 20	.24	.096	.646	1 to 6.73	2.523	4.32			1.24
May 14.....	480 c. c.	1023	17.16	1.10	1 to 15.16	.28	.125	.397	1 to 3.2	1.550	3.07			.62
May 15.....	380 c. c.	1023	14.2	1.00	1 to 14.2	.114	.0456	.327	1 to 7.17	1.277	3.04			.57
May 16.....	455 c. c.	1022	14.00	1.00	1 to 14	.09	.036	.391	1 to 10.86	1.536	2.73			.56

Autopsy.—Section was made five hours after death by Professor Herdman. The great omentum was a mass of cancerous nodules and weighed nine and one-half pounds. The liver was enlarged and covered with cup-shaped nodules. Its weight was ten and one-half pounds. The gall-bladder contained seventy-five cubic centimeters of bile which was of a dark-reddish color and responded beautifully to Gmellin's test for bile pigments, but contained no bile acids, for which thorough search was made. The peritoneum was infiltrated in every part with the cancerous growths. Some deposits were found in the pleuræ and pericardium. The muscular and mucous coats of the stomach and intestines were unaffected. The pancreas, spleen and kidneys were not involved. Further details of the examination are given by Professor Herdman as follows:

"The liver was found infiltrated throughout its entire extent with nodules varying in size from a mustard seed to a walnut. To the naked eye these growths presented a dull white appearance, somewhat resembling lumps of lard. Those upon the surface of the organ were in many eases flattened, the free surface often umbilicated and the peritoneum covering them thickened and opaque. On cross-section of these nodules they were found to be varying in density and color. In some instances the cut surface appeared gray, or mottled, with irregular deposits of pigment, while the structure was at points soft and yielding; in others the surface presented a uniform, dull white appearance, and was quite resisting to pressure. Very little juice could be expressed from any of the nodules.

"The microscopical characters were quite varied, but the harder nodules were largely composed of fibrous stroma enclosing groups of cells, irregular in size, containing large clear nuclei. In the softer portions of the nodules the cellular structure was proportionately more abundant; even the stroma containing many spindle-shaped cells with clear, distinct nuclei. In the vicinity of the morbid growths the normal liver structure was at times quite well defined while at other points it showed plainly the various stages of transition from normal to abnormal structure by the fibrous material increasing in quantity and the liver cells showing signs of disintegration, many of them being shriveled, ragged and irregular in outline, containing granular matter or an unusual number of fat globules. The vascularity of these new growths was at no point very abundant. From these characters I would pronounce the disease scirrhous cancer approaching the type of encephaloid; some of the appearances rendering it quite doubtful, under which form it should be classified.

"The minute papillary growths, which were developed in such abundance upon the peritoneum and elsewhere, had still more of an encephaloid character. So numerous were these little nodules, and so generally disseminated throughout the entire ramifications of the peritoneum, that the membrane was enormously increased in thickness and presented quite a novel appearance. The great omentum had become so thoroughly infiltrated as to lose entirely its normal character and spread over the abdominal contents in a large fold of almost leathery consistence, an inch or more in thickness, with greatly increased vascularity and a rough uneven surface. The minute growths, to which this change in size and structure was largely due, were composed almost entirely of cells with very little enclosing stroma, indicating very rapid development and showing little tendency to approach the scirrhus character, and being difficult to distinguish from large celled sarcoma.

"From their distribution and structure I would conclude that these peritoneal growths were secondary in their origin to the disease of the liver, and their uniform development and dissemination would seem to indicate that the influence that produced them was exerted at numerous points at one and the same time. The most probable conclusion would be that certain cells and juices escaping from the surface of the liver nodules into the peritoneal cavity had acted as points of infection at the numerous openings of the lymphatic ducts, which lead away from the walls of this serous sac. In the light of these facts, and without any proof to the contrary, my opinion is that the primary disease, which necessitated the extirpation of the eye ball two years ago, was of cancerous rather than sarcomatous nature, and that these new formations in the liver, peritoneum, etc., are secondary thereto and resulting from it. The liver is one of the organs most commonly affected by cancerous metastasis, and when this organ is thus secondarily attacked, the eyeball is not infrequently the seat of the original or primary tumor."

Discussion.—We have here a case, in which so far as functional activity is concerned, the affection was confined almost exclusively to the liver. It is true that with so grave a change in this organ, every other organ of the body must have been somewhat modified in its action. But the history of the case and the results of the analyses indicate that the stomach, pancreas and kidneys did their work with a fair degree of perfection. There was nausea but once or twice, and it was very slight then. Tyrosin and leucin were formed, and we suppose that they were the products of pancreatic digestion. The kidneys were intact. Physologists draw conclusions from their observations upon animals from which important organs have been removed, and we doubt if the effect upon other organs in our pathological case was so marked as it often is in physiological experimentation. At any rate we may endeavor to read something of the history of the function of the liver from the few facts furnished us by our analyses. In making these interpretations we may fall into errors; but if so, we hope that future investigation will lead us out of them.

We learn from the presence of a fluid in the gall bladder containing bile pigments (the fluid can hardly be called bile as it contained no acids) *that the liver notwithstanding its diseased condition was still able to form bile pigments.* This agrees with other observations in certain pathological conditions. Foster* says: "The presence of bile pigment in this form of jaundice (that due to suppression of the secreting functions of the liver) would seem to indicate that the formation of the pigment, that is, the transformation of the hemoglobin into bilirubin, requires but little labor on the part of the cell and may be carried on even when the protoplasm of the cell is highly deranged."

The presence of taurin in large amount in the urine suggests that this constituent of the bile does not depend upon the liver for its formation, or at least does not require in its formation great activity of the liver. This agrees with the fact that taurin has been found in muscular and lung tissue.† What is stated of taurin is probably also true of glycin, though no test for this substance in the urine was made. On the other hand, the absence of bile acid (cholalic), both in the urine and in the contents of the gall bladder, indicates that this substance is dependent upon the activity of the liver for its formation. Then it is more than likely that so far as the formation of bile is concerned, the activity of the liver is limited almost exclusively to the elaboration of cholalic acid and its conjugation with taurin and glycin in the formation of taurocholic and glycocholic acids.‡

The presence of the large amount of taurin in the urine would indicate that when this substance is uncombined with cholalic acid, it escapes oxidation in the body and is excreted unchanged. However, this is only a suggestion, and needs further investigation. It is supported by the fact that if a solution of taurin be injected subcutaneously in a rabbit, the greater part of the taurin appears unchanged in the urine; while if the solution of taurin be administed by mouth, only about one-fourth of it appears in the urine unchanged, and traces of it appear as sulphurous acid, but the greater part is wholly oxidized and is found in the urine as sulphuric acid.§ Cech‖ also found that the amount of sulphates in the excretion of fowls was increased by the addition of taurin to the the food. On the other hand Salkowski¶ found that the addition of taurin to the food of man did not increase the sulphate of the urine, that a small part of the taurin reappeared unchanged in the urine, while the greater part appeared as tauro-carbamic acid. However, the large amount of unoxidized sulphur in the urine and the ease with which it may be detected and estimated, will, we think, be taken into consideration in the future in making diagnoses of obscure affections of the liver.

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*Text Book of Physiology, Second American Edition, page 363.

†Hoppe-Seyler.

‡See Foster, loc. cit.

§Maly, Hermann's Handbuch d. Physologie, Band V.

‖Jahresber, d. Thierchemie, Band VII, seite 235.

¶Ibid, Band II, seite 144 u. Band III, seite 146.

By the coloring matters of the urine some indications of value are pointed out. The urochrome, which is the normal coloring matter of the urine, probably originates directly from the bile pigment. Uerythrine, under various names, as rosaic acid, purpurate of ammonia,* etc., has long been known to be present in the urine in certain diseases of the liver, acute rheumatism, pericarditis, etc. However, in cancer of the liver the deposited urates have a darker-red hue than in acute rheumatism and allied diseases, in which the deepest color is a bright pink. This darker hue may be due to the admixture of uromelanine with uerythrine or to the rapid conversion of the latter into the former form contact with the air. Neubauer and Vogel† say: "The urine presents a very peculiar appearance in the majority of most persons who suffer from melanotic cancer. Of the normal color when passed, it gradually becomes brown or even black when exposed to the air. This dark color appears still more quickly when oxidizing substances have been added, as nitric or chromic acid. This proceeds from a peculiar substance characteristic of melanotic cancer—*melanogen*. This peculiarity of the urine may be rendered serviceable for the diagnosis of melanotic cancer which is concealed in the internal organs, as, for example, in the liver."

It will be noticed by reference to the table that the amount of urea varied but little from the day on which the first estimation was made until death. If an animal be starved to death it will be observed that during the first few days of starvation the amount of urea rapidly declines, soon reaches a minimum and then remains stationary, or nearly so, until death. We suppose that the amount of urea excreted by our patient was not affected by his food. The leucin and tyrosin escaped conversion into urea on account of the diseased condition of the liver. Granting that none of the urea came from the food, whence came it? It may possibly have come from urea already formed and stored up somewhere in the body. But in what part of the body can this store-house be? Urea is not found in muscular tissue and the amount in the blood unless constantly replenished would soon be exhausted by excretion from the kidney. Is it not more probable that the urea excreted by our patient and by starving animals (for we consider that our patient was in a state of starvation so far as nitrogenous foods were concerned on account of the inability of the liver to utilize them) came from the kreatin and other nitrogenous, crystallizable substances formed in muscular tissue? Physiologists are by no means satisfied as to where or in what organ the transformation of kreatin into urea (provided such transformation does occur) takes place. Our experiments seem to indicate that the change does not occur in the liver. Oppler,[*] Perls,[‡] Zalesky [‡] and Ssubotin [§] have made experiments which seem to show that the kidney is concerned in the formation of urea; while investigations leading to an opposite conclusion have been made by Voit,[||] Meissner[¶] and others. It seems to us probable that the greater part of the urea formed in health comes from the food and is formed in the liver by the conversion of leucin, tyrosin and allied bodies; while a smaller amount of urea—that which continues in the urine during starvation and in grave structual diseases of the liver—comes from the muscular tissue through the conversion of kreatin and that this conversion takes place in some other organ than the liver, probably in the kidney. The urea resulting from the digestion of food is not affected by exercise, while the other portion may be slightly increased.

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*Prout was the first to suppose that this color was due to an admixture of purpurate of ammonia and urates; but the difference between this coloring matter and purpurate of ammonia or murexide was pointed out by Bence Jones. See Animal Chemistry, 1850, page 132.

†Analysis of the Urine, American Translation, 1879, page 368.

The great increase of uric acid both relatively in proportion to the urea in the same urine and absolutely for the twenty-four hours, we shall not attempt to explain. We believe, however, that it is a fact that a deposit of urates invariably occurs in cases of cancer of the liver.

The sulphuric acid in the urine has two sources, (1) from the sulphates taken as such in the food, and (2) from the oxidation of the sulphur in albuminous substances. In our patient, the second source of sulphuric acid was wanting; consequently, the small amount. We regard the discovery of the large amount of unoxidized sulphur as the most important part of our work.

The comparatively large amount of phosphoric acid was probably due to the rapid growth of the cancerous tissue, as the demand for phosphorous in such growths is large. It probably was obtained at the expense of tissue rich in phosphorous, as nervous tissue and the white corpuscles.

The leucin and tyrosin we regard as formed in the small intestine during pancreatic digestion and passing on into the urine on account of the inability of the liver to utilize them. The small amount of chlorides is accounted for by the limited diet.

[*] Archiv f. patholog., Anatomie, Band XXI, Seite 260.

[†] Königsberger Med. Jahrb. Band IV, Seite 56.

[‡] Untersuchungen über den Urämischen Process and die Function der Nieren.

[§] Ztschr. f. rat. Med. Band XXVIII, Seite 114.

[||] Ztschr. f. Biologie, Band, IV, Seite, 116.

[¶] Ztschr. f. rat. Med. Band, XXVI, Seite, 225.

We may sum up our results in order to make them as practical as possible as follows:

(1) The small amount of urine was due to obstructed circulation.

(2) Urine in cancer of the liver deposits urates colored more or less of a red, and this color becomes darker on exposure to the air.

(3) The formation of bile pigments continues even in structural diseases of the liver, which involve nearly the whole of the gland substance.

(4) The formation of bile acid is arrested in the latter stages of cancer of the liver.

(5) In this formation of bile the functional activity of the liver is concentrated for the most part upon the elaboration of bile acid.

(6) Taurin and glycin are formed in the body even when the greater part of the liver is destroyed by abnormal growth.

(7) Unoxidized sulphur (partly or wholly in the form of taurin) is present in the urine in large amount.

(8) Our experiments indicate the two fold origin of urea. The amount of urea is reduced to a minimum and then remains stationary until death.

(9) The quantity of uric acid is increased, and urates are deposited.

(10) The phosphoric acid remains about the same in quantity as in health.

(11) The sulphates and chlorides are greatly diminished.

(12) Leucin and tyrosin appear and may be detected by microscopical inspection after concentration and may be approximately estimated by the method given.

ARSENIC: ITS PHYSIOLOGICAL ACTION; ELIMINATION BY THE KIDNEYS; DETECTION AND ESTIMATION.

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Arsenic has formerly been, and still continues to be the subject of much discussion, both among chemists and medical men.

Continually brought before the attention of the public through the courts and otherwise, inducement is offered to the chemist to perfect his knowledge of it, and indeed it often becomes of vital importance that such a complete knowledge of its properties and reactions should be obtained as to render mistakes well nigh impossible.

It is a fact to be lamented that such a common and really useful substance is so dangerous to life and so perplexing to the chemist. Its very abundance often leads to serious mistakes.

Useful it certainly is in medicine, but on account of its varying and uncertain action on the human system it becomes a source of perplexity to the physician as well as to the chemist, and its most beneficial results are brought about by the physician long familiar with its action on the human system.

It plays an important part in animal economy. According to Curze (*Detroit Review of Medicine*, Volume II, page 331) when arsenic is taken into the system the materials for the transformation of tissue are sparingly used and the endurance of the body is greatly augmented.

Schmidt and Hurtzwage (same reference) observed in birds and cats fed on arsenic a decrease in the amount of carbonic acid exhaled, and in cats a decrease in amount of urea excreted. The same authorities place the decrease in waste of tissue in cats and fowls as high as twenty to forty per cent.

According to Schmidt no decrease in the weight of a cat was observed which was fed on arsenic for several days, although no other food was taken. "This must be," concludes the writer, "the consequence of a checking of oxidation, which can only occur at the expense of another function, absorption."

The same experimenter reports that the temperature of a rabbit injected with arseniate of soda was lowered, the decrease being from 1° to 3° R.

It is further stated that it prolongs greatly the pulsation of the excised heart and checks the coagulation of freshly drawn blood.

The following experiment was for the determining of the increase or decrease in the waste of tissue, as shown by the relative amounts of the normal constituents of the urine, both before and after the introduction of arsenic into the system.

It was necessary that an average of these constituents should first be established, which was done as follows: Each day's excretion for eight consecutive days was obtained and the amount of the urea, uric acid, chlorides, sulphates and phosphates were daily estimated. "Dr. Vaughan's Chemical Physiology" was followed.

An average having been established, (results given further on) arsenic in the form of the gelatin coated pills of Schiefflein & Company, of New York, were taken in doses of two-fiftieths of a grain three times per day (or an average of five-fiftieths of a grain per day). When this dose had been continued four days, the estimations for establishing the second average were commenced, the same dose, five-fiftieths of a grain per day being still continued. During the time of this experiment the daily exercise was quite uniform and the diet extremely so.

The results of the estimations are given in the following tables. The estimations for uric acid were made by Dr. Vaughan:

I. SUMMARY OF ANALYSES.

Am't As. per day.	Sodium-Chl.	Urea.	Uric Ac.	Sulph'ts $S\ O_3$	Phosp. $P_2\ O_5$	Am't Urine.	React.
None.....				3.72 gm	6.72 gm	1200 c. c.	Acid.
None.....				1.98 gm	5.06 gm	1000 c. c.	Acid.
None.....	11.6 gm	39.1 gm	.391 gm	3.48 gm	6.09 gm	1450 c. c.	Acid.
None.....	15.3 gm	40.8 gm	.394 gm	2.16 gm	5.78 gm	1700 c. c.	Acid.
None.....	11.5 gm	35.65 gm	.389 gm	3.56 gm	4.71 gm	1150 c. c.	Acid.
None.....	12.1 gm	38.88 gm	.390 gm	4.08 gm	5.91 gm	1275 c. c.	Acid.
None.....	13.5 gm	38.25 gm	.385 gm	1.75 gm	5.80 gm	1350 c. c.	Acid.
None.....	13. gm	36.4 gm	.387 gm	1.56 gm	4.68 gm	1300 c. c.	Acid.
Average	12.83 gm	38.18 gm 37.78 gm	.388 gm .387 gm	2.78 gm 2.68 gm	5.59 gm	1303 c. c.	
		.40 gm	.001 gm	.10 gm			

II. SUMMARY OF ANALYSES.

Am't As. per day.	Na Cl.	Urea.	Uric Ac.	Sulph'ts $S\ O_3$	Phosp. $P_2\ O_5$	Am't Urine.	React.
5-50 grs.	19.8 gm	37.95 gm	.387 gm	2.32 gm	6.6 gm	1650 c. c.	Acid.
4-50 grs.	20.3 gm	35.52 gm	.390 gm	1.88 gm	5.36 gm	1450 c. c.	Acid.
4-50 grs.	14.85 gm	37.8 gm	.392 gm	2.83 gm	5.53 gm	1350 c. c.	Acid.
4-50 grs.	15.75 gm	41.25 gm	.385 gm	3.30 gm	6.00 gm	1500 c. c.	Acid.
None.....	12.60 gm	36.40 gm	.383 gm	3.08 gm	5.74 gm	1400 c. c.	Acid.
Average	16.66 gm 12.83 gm	37.78 gm	.387 gm	2.68 gm	5.85 gm 5.59 gm	1470 c. c.	
	3.83 gm				.26 gm		

COMPARISON OF RESULTS.

Chlorides, (increased after taking arsenic)...............	3.83 gram.
Urea, decreased..	.40 gram.
Uric acid, decreased..	.001 gram.
Sulphates, decreased...	.08 gram.
Phosphates, increased..	.26 gram.

Conclusions drawn from the above Results.—The increase of chlorides has no doubt but little significance, generally, as the amount varies greatly with the character of the food, and other influencing causes. In this case, however, the increase does not seem to be temporary, but was seven grams above the average of the chlorides excreted before taking the arsenic, and gradually decreased. This increase may be partially accounted for by the increase in the number of cubic centimeters of urine excreted daily—the arsenic stimulating the action of the kidneys; or it might be inferred that the demand of the system for chlorides, and perhaps salts in general, is partially supplied by the presence of arsenic.

The slight decrease of sulphates and increase of phosphates need no comment.

The urea was decreased .40 gram. This result, in a feeble way, goes toward confirming statements previously made as to the power of arsenic in decreasing the amount of the products representing waste of tissue. At least a negative deduction can be drawn from it, namely:

That the waste is not increased. The estimations of uric acid confirm the above conclusions.

The elimination of Arsenic by the Kidneys.—That the action of the kidneys in eliminating arsenic from the system, when once it comes within their province, is rapid, there is abundant evidence, and when large quantities are taken it can be detected in the urine in a very short time. It has been thus discovered in two hours after the administration of a poisonous dose.

Most of the recorded results as to its elimination by the kidneys, appear to have been made after a very large, even poisonous dose, had been given, and no record was found regarding its elimination, after its administration in medicinal doses.

In the following experiments, Schiefflein's pills were taken in doses as given in the table:

I. TABLE OF RESULTS.

Date.	Total Per Day.	Remarks.	Result of Analysis.
March 23	3-50 gr. As_2O_3		
March 24	3-50 gr. As_2O_3		
March 25	3-50 gr. As_2O_3	Collected.	No Arsenic.
March 26	3-50 gr. As_2O_3	Collected.	1-100 gr. As_2O_3
March 27	3-50 gr. As_2O_3	Collected.	Traces.
March 28	6-50 gr. As_2O_3		
March 29	6-50 gr. As_2O_3		
March 30	4-50 gr. As_2O_3	Collected.	1-58 gr. As_2O_3
March 31	4-50 gr. As_2O_3	Collected.	1-83 gr. As_2O_3

II. TABLE OF RESULTS.

May 18	6-50 gr. As_2O_3		
May 19	5-50 gr. As_2O_3		
May 20	6-50 gr. As_2O_3		
May 21	4-50 gr. As_2O_3		
May 22	5-50 gr. As_2O_3	Collected.	1-110 gr. As_2O_3
May 23	4-50 gr. As_2O_3	Collected.	1-187 gr. As_2O_3

Summary of Results.—In table number I, the work of which was done during the March recess, arsenic was taken in doses of three-fiftieth grains per day for five days, and the urine of the last three days was collected. In that of the first day's excretion no arsenic was found, and on the second day one one-hundredth grain As_2O_3 was found. On the third day traces only were detected.

During the following four days an average of five fiftieth grains per day was taken and the urine of the last two was collected and found to contain respectively one fifty-eighth grain and one eighty-third grain $As_2 O_3$

Thus in a healthy system we see that arsenic taken in moderately medicinal doses, makes its appearance in the urine in about four days. Of course its rate of elimination is irregular, it being governed by many varied circumstances, and moreover, there is a liability to error in quantitative estimations, as will be shown in a following description of the method used.

During the time of this experiment not much exercise was taken and a great deal of the time spent in doors. This is mentioned as it has a bearing on the result of a comparison between the preceeding experiment and one following.

Table number II, arsenic was taken in doses averaging five-fiftieth grain per day for six days, and the urine of the last two was collected and found to contain respectively one one-hundred and tenth grain and one one-hundred and eighty-seventh grain $As_2 O_3$.

In this experiment the rate of elimination was evidently much lower than in the preceeding. This is probably accounted for by a difference in accompanying circumstances.

Much more exercise was taken during the latter experiment than during the former, even to daily fatigue, thus favoring excretion by the skin. Again the arsenic may have been called into service in its power of preventing waste of tissue.

There was one more experiment in this line, upon a person in feeble health, and especially troubled with indigestion due to gastric catarrh.

Arsenic was given in doses of three sixtieth grains per day for six days, and at the end of that time no appreciable amount of arsenic could be detected. The dose was then increased to six sixtieth grain, and at the end of six days one one hundred and twenty-fifth grain $As_2 O_3$ was detected and estimated.

The doses were then discontinued for about two weeks and then again commenced. No arsenic was detected at the expiration of one week.

We can infer that on account of weak digestion. The arsenic pills passed the digestive tract undissolved, or, that having been dissolved, and the arsenic passed into the system, it was either there retain or excreted by other ways than through the urinary tract.

Detection and Estimation of Arsenic in Urine.—The method used was essentially that as described by Chittenden and Donaldson.—*Chemical News*, January 14, 1881, page 22.

The Marsh process is made use of, the arsenic being obtained as a metallic mirror, reduced by the passage of arseniuretted hydrogen through a heated tube, and deposited beyond. The gas is first passed through a tube containing potassa and calcium to purify it, and from the end of the reduction tube a rubber tube leads into a silver nitrate solution. The solution to be tested must be evaporated to about one hundred and fifty cubic centimeters.

Besides the well established precautions necessary for the successful operation of the Marsh apparatus, the following details must be carefully regarded:

First, as to the mode of introduction of the fluid to be analyzed into the flask in which the hydrogen is generated. It must be done through a stop-cock tube having a reservoir cup above. The fluid is then added to a specified amount of sulphuric acid of known strength and it is then ready to be introduced into the flask, the following precaution having been carried out:

To a specified quantity of pure zinc and a few strips of platinum a quantity of diluted sulphuric acid is added, and, after the hydrogen has run sufficiently long, heat is applied to the reduction tube. This must be done by four Bunsen burners, protected from currents of air, or by the use of a regular reduction furnace, four jets being used and two pairs of the non-conducting plates used as protectors and to equalize the heat. To insure purity as to materials used the gas must be passed through this heated tube for at least twenty minutes before introducing the suspected solution. The tube must be heated as hot as the glass will bear. The solution can now be introduced at the rate of a drop in three or four seconds until all has passed in.

Some more sulphuric acid is then added of a little greater strength than the preceding to make up for the greater quantity of fluid in the flask. After a time some still stronger is added, the object being to keep the evolution of the gas uniform. The stop-cock tube must be kept full of fluid all the time, so as to prevent the introduction of air into the flask, which would oxidize some of the reduced arsenic. A little sweet oil may be introduced into the flask to prevent the frothing which sometimes takes place in the presence of organic matter. The flask must be kept cool to prevent the formation of hydrogen-sulphide gas.

A neglect of some of these details has formerly brought this method of quantitative estimation of arsenic into disrepute, but it is shown to be very accurate by a long series of results published in the *Chemical News*, accompanying the description of the method. Still more accurate details can be found in a recent number of the *Scientific American*, one of the authors having been called upon to give a description in court of the method used by him in an analysis in a case of suspected poison. The authors claim that the presence of organic matter in a finely divided state does not interfere with the complete formation of arseniuretted hydrogen.

In Fresenius and other standard authorities a statement in direct opposition to this is found. That arsenic has a strong affinity for organic matter is shown by the difficulty with which it is separated by washing with the proper solvents.

In the analysis tabulated on a preceding page it was noticed that the arsenic mirror did not appear until the sediment produced by the concentration of the urine, began to pass into the flask, thus showing that the arsenic was carried down with this deposit and, perhaps, became intimately combined with it.

This, indeed, might be a source of error, as it becomes difficult to introduce the sediment into the flask at a uniform rate, which may prevent the complete formation of arseniuretted hydrogen.

A mirror having been obtained it can be weighed by cutting out that portion of the tube, drying it, and weighing. The mirror is then dissolved out by nitric acid, and the tube reweighed, the difference being the weight of the metallic arsenic. As an additional proof of identity the mirror was oxidized and a stream of hydrogen-sulphide was passed through, giving the characteristic yellow sulphide. This can be weighed, thus giving a check on the results.

PURITY AND STRENGTH OF BAKING SODA.

BY NICHOLAS VAN DEN BELDT, PH. C., HOLLAND, MICHIGAN

[ABSTRACT.].

[Soda and saleratus are different common names for the same article, which is in fact the bicarbonate of sodium. Although the term saleratus, or sal aëratus—aërating salt—was originally applied to a super-carbonated potash, it has been adopted for bicarbonated soda, by some dealers in the latter article. The potash saleratus, introduced before soda became the cheaper alkali of the world, was a granular mixture of bicarbonate of potassium with a smaller part of normal carbonate of potassium. The soda saleratus is bicarbonate of sodium, liable to contain normal carbonate, either from deficient charging with carbonic acid gas in the manufacture or from loss of this gas through the action of heat in concentrating and drying. Potash saleratus has not been in use in this generation as a bread-aërating salt, and does not enter into any of the baking powders. The super-carbonate of ammonium, and carbonate of calcium, have each been applied in certain special methods for vesiculating bread, but the bicarbonate of potassium is too dear a salt to be offered when the dealers have their option of the cheap sodium bicarbonate. It must be granted that potash compounds are apt to be deficient in the food of animals, as well as in the food of plants, but it is not desirable to supply potash in a bread-aërating salt, because the bicarbonate of potassium is too strongly alkaline, and too nearly caustic in effect, to be trusted in common use with the danger of incomplete neutralization. It is fortunate that the milder alkali has been the cheaper one, by favor of chemical inventions giving production of alkali from common salt, and dating back to the second decade of this century.]

The sodium bicarbonate which is put upon the market in packages, with printed wrappers, is in part presented under the name of saleratus; while that sold in bulk goes with the name of baking soda, or bicarbonate of soda.

It is well known that baking soda is liable to a deficiency of carbonic acid, and a corresponding excess of alkali strength, these proportions being due to presence of normal carbonate of sodium. As a direct means of ascertaining the extent of these imperfections, as well as the presence and amount of certain impurities, analyses of eight brands of manufacture were made, with results as follows. The carbon dioxide was estimated by its absorption:

Number.	Samples.	Percentages.			
		Sodium oxide.	Carbon dioxide.	Sulphates.	Chlorides.
	$NaHCO_3$	36.90	52.38		
1.	De Land	39.7	47.3	1.94	0.34
2.	Boos & Holbrook	37.8	49.1	1.54	0.76
3.	Dwight	37.7	50.1	......	......
4.	Beatty, Fitzgerald & Co	38.4	49.6	......	......
5.	Church	39.2	48.3	0.64	0.46
6.	J. M. Taylor	40.1	49.8	......	......
7.	English	39.8	50.2	0.34	none
8.	English	39.06	50.7	......	......

THE COMPARISON OF OAK, HEMLOCK AND SUMAC BARKS, WITH A VIEW TO DETERMINE THEIR VALUE AS TANNING MATERIALS.

BY L. A. GOODRICH, B. S., PH. C., HILLSDALE, MICHIGAN.

In estimating the percentage of tannic acid in different materials, many schemes are offered, each one of which is thought, by its author, to be the only correct method as there are so many substances besides the tannic acid that effect the reagent used.

I selected three methods for analysis. Samples were gathered (except the hemlock), April 22, 1882, were taken from trees from six inches to twenty-four inches in diameter, so that an average sample might be obtained. They were all dried at the same temperature before weighing the amount to be estimated, then extracted with water until no color would be produced with ferric chloride. The infusion was not allowed to stand over night before being estimated.

FIRST METHOD.*

By precipitating the tannic acid as tannate of lead, with a solution of lead acetate, using potassium ferricyanide as an indicator; this will detect one milligrame of tannic acid in one hundred cubic centimeters of water.

Percentages obtained from three titrations:

RED OAK.

First titration	8.33	per cent. tannic acid.
Second titration	8.68	per cent. tannic acid.
Third titration	8.44	per cent. tannic acid.
Average	8.48	per cent. tannic acid.

WHITE OAK.

First titration	15.6	per cent. tannic acid.
Second titration	16.00	per cent. tannic acid.
Third titration	15.6	per cent. tannic acid.
Average	15.7	per cent. tannic acid.

BLACK OAK.

First titration	22.32	per cent. tannic acid.
Second titration	21.54	per cent. tannic acid.
Third titration	21.9	per cent. tannic acid.
Average	21.92	per cent. tannic acid.

HEMLOCK.

First titration	18.93	per cent. tannic acid.
Second titration	20.16	per cent. tannic acid.
Third titration	19.5	per cent. tannic acid.
Average	19.53	per cent. tannic acid.

SUMAC.

First titration	15.62	per cent. tannic acid.
Second titration	15.24	per cent. tannic acid.
Third titration	16.00	per cent. tannic acid.
Average	15.62	per cent. tannic acid.

In this method the indicator works well with the exception of black oak, which colors it a bright yellow, instead of a pink, due to the large amount of coloring matter in the bark. Gallic acid does not effect the indicator.

SECOND METHOD.†

By precipitating the tannic acid as tannate of antimony. Using a solution of tartrate of antimony and potassium of such strength that one cubic centimeter will precipitate 0.005 gram of tannic acid. Depending upon the subsidence of the precipitate to determine when the tannic acid is all precipitated; but this is rather slow. To confirm the results I used the potassium ferricyanide as an indicator.

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* *Chemical News*, Volume XXIX, page 189.

† *Chemical News*, Volume VIII, page 54.

Percentage obtained from three titrations:

RED OAK.

First titration	7.5	per cent. tannic acid.
Second titration	9.0	per cent. tannic acid.
Third titration	8.5	per cent. tannic acid.
Average	8.16	per cent. tannic acid.

WHITE OAK.

First titration	13.0	per cent. tannic acid.
Second titration	12.5	per cent. tannic acid.
Third titration	14.0	per cent. tannic acid.
Average	13.16	per cent. tannic acid.

BLACK OAK.

First titration	19.0	per cent. tannic acid.
Second titration	20.5	per cent. tannic acid.
Third titration	20.0	per cent. tannic acid.
Average	19.8	per cent. tannic acid.

HEMLOCK.

First titration	20.0	per cent. tannic acid.
Second titration	20.5	per cent. tannic acid.
Third titration	21.5	per cent. tannic acid.
Average	20.6	per cent. tannic acid.

SUMAC.

First titration	21.0	per cent. tannic acid.
Second titration	20.0	per cent. tannic acid.
Third titration	20.5	per cent. tannic acid.
Average	20.5	per cent. tannic acid.

THIRD METHOD.*

By means of potassium permanganate. Using a solution of indigo carmine as an indicator. When the permanganate solution is titrated into the indigo solution, the color must change from greenish to a clear, *golden yellow*. This change must take place with precision otherwise the solution is worthless. Note the number of cubic centimeters of permanganate solution used to produce the yellow color. Now add a given number of cubic centimeters of the infusion and note the number of cubic centimeters of the permanganate solution required to produce the yellow color. The difference in the number of cubic centimeters of permanganate solution used in both titrations is the number decolorized by the infusion added. The permanganate solution being made of such strength, that one cubic centimeter precipitates 0.004157 gram of tannic acid.

Pectous substances of the bark effect the permanganate solution, but their action is slow, and the end reaction is reached before they effect the solution appreciably. Two grams of the ground bark were exhausted with water and the solution diluted to two hundred cubic centimeters. Ten cubic centimeters of this solution were taken for each titration.

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*Journal of Chemical Society, Volume IX, page 594.

Percentages obtained from three titrations:

RED OAK.

First titration	8.3	per cent. tannic acid.
Second titration	8.7	per cent. tannic acid.
Third titration	8.3	per cent. tannic acid.
Average	8.43	per cent. tannic acid.

WHITE OAK.

First titration	12.45	per cent. tannic acid.
Second titration	13.2	per cent. tannic acid.
Third titration	12.0	per cent. tannic acid.
Average	12.55	per cent. tannic acid.

BLACK OAK.

First titration	16.18	per cent. tannic acid.
Second titration	16.60	per cent. tannic acid.
Third titration	17.43	per cent. tannic acid.
Average	16.73	per cent. tannic acid.

HEMLOCK.

First titration	19.09	per cent. tannic acid.
Second titration	18.68	per cent. tannic acid.
Third titration	19.00	per cent. tannic acid.
Average	18.92	per cent. tannic acid.

SUMAC.

First titration	13.28	per cent. tannic acid.
Second titration	12.45	per cent. tannic acid.
Third titration	13.28	per cent. tannic acid.
Average	13.0	per cent. tannic acid.

Estimated a sample of sumach leaves by the last method. Results:

First titration	34.0	per cent. tannic acid.
Second titration	34.8	per cent. tannic acid.
Third titration	34.0	per cent. tannic acid.
Average	34.2	per cent. tannic acid.

Of the three methods employed, the more satisfactory one is the permanganate method. The end reaction is definite and easily seen, but if *strictly* accurate results are required then the pectous substances and the coloring matter of the infusion should be removed before titrating.

If the commercial value of the different barks, under consideration could be based on the results obtained, then there would be but little choice between black oak, sumac and hemlock barks.

THE COMPOSITION AND STRENGTH OF THE TINCTURE OF THE CHLORIDE OF IRON AS FOUND IN USE.

BY R. B. RANSOM, PH. C., LANSING, MICHIGAN.

It is well for physicians to know whether or not the drugs, with which their patients are furnished by the pharmacist, are of proper composition and strength. With this in view I made analysis of ten samples of the tincture of the chloride of iron obtained from different drug-stores in the state. Prepared according to the United States Pharmacopœia this drug should have a specific gravity of .990; the alcoholic strength should be 67.125 per cent., and each fluid ounce should yield 28.8 grains of ferric oxide, and should contain 39.5 grains of anhydrous hydrochloric acid. It should give no dark coloration on the addition of a crystal of ferrous sulphate and sulphuric acid (absence of nitric acid), and no blue precipitate with potassium ferricyanide (absence of ferrous salts).—*American Journal of Pharmacy*, Volume XLVIII, page 211.

I shall not give here the methods but only the results of the analysis:

No. of Sample.	Where Obtained	Specific Gravity.	Amount of Fe_2O_3 to fl℥i.	Amount of Anhydrous HCl to fl℥i.	Nitric Acid.	Ferrous Salts.
1.	Brown & Co., Ann Arbor.	.964	28.41 grs.	35.85 grs.	Absent.	Absent.
2.	Eberbach & Son, Ann Arbor.	1.016	30.09 grs.	37.38 grs.	Absent.	Absent.
3.	Goodyear, Ann Arbor.	.997	37.35 grs.	49.11 grs.	Absent.	Absent.
4.	Holmes, Ann Arbor.	.960	34.9 grs.	36.96 grs.	Absent.	Absent.
5.	Frank Wells, Lansing.	.976	30.5 grs.	37.67 grs.	Absent.	Absent.
6.	Alsdorf & Co., Lansing.	.967	29.1 grs.	35.28 grs.	Trace.	Absent.
7.	Geo. McDonald, Kalamazoo.	1.045	29.3 grs.	34.2 grs.	Absent.	Trace.
8.	C. S. Arcambal, Kalamazoo.	.953	30.1 grs.	32.1 grs.	Trace.	Absent.
9.	Tibbals, Port Huron.	.980	29.6 grs.	37.91 grs.	Absent.	Absent.
10.	Parkers, Port Huron.	.973	30.4 grs.	36.42 grs.	Absent.	Absent.
	Average	.9831	31.05 grs.	37.29 grs.		

From the table it will be seen that the samples do not vary greatly in regard to ferric strength except in two cases, in which the ferric strength quite exceeds the officinal standard. The HCl does not vary to a great extent except in one case, when it is considerably more the standard.

The alcoholic strength was found to vary between fifty-six and sixty-four per cent.

The difference in the color of the samples was quite noticeable, varying from a pale lemon to a brownish orange, the depth of shade changing with the proportion of iron and the amount of acid.

ANALYSIS OF TEA DUST.

BY LEROY H. DEYO, PH. C., FLINT, MICHIGAN.

[ABSTRACT.]

Samples.	Percentages.				
	Ash.	Insoluble Ash.	Soluble Ash.	Extractive Matter.	Caffeine.
1	11.00	8.61	2.39	28.77	1.38
2	9.22	7.54	1.68	23.71	1.57
3	8.14	5.89	2.35	31.48	1.28
4	13.48	10.45	3.03	24.96	0.96
5	10.10	6.93	3.18	33.08	1.04
6	7.67	4.76	2.91	39.17	1.46
7	12.81	9.73	3.08	34.61	0.84
8	11.96	9.54	2.42	28.55	1.13
9	9.72	7.56	2.16	37.16	1.74
10	8.96	6.58	2.38	36.35	1.34
Maximum.	13.48	10.45		39.17	1.74
Minimum.	7.67	4.76		23,71	0.84
Average.	10.30	8.75	2.54	31.75	1.27
Legitimate limits for good tea.	8.00 max.	5.00 max.	3.00 min.	30.00 min.	
Average for good tea.	5.50	2.50	3.00	35.00 to 45.00	2.00 to 2.50

These results show that tea dust has a low value as a representative of the tea leaf. The large proportion of insouble mineral matter found in analysis was supported by the microscopic inspection, showing abundant fragments of mineral dust. The proportion of extractive matter—the part dissolved in water on repeated hot digestion—is not very low, being above the minimum of the public analysts (as adopted for the exclusion of spent tea) in six out of the ten samples. Without doubt, tea dust is a waste material worthy to be saved, and may be classed as an honest article of quite inferior quality. The percentage of the alkaloid, caffeine or theine, is low in proportion to the per cent. of matter soluble in water,—showing that those parts of the plant which break away into fine fragments in handling, are not so rich in alkaloid as are the central portions of the leaf.

The caffeine was estimated as follows: One part of each of the tea and of slaked lime, with four parts of water, are evaporated to dryness on the water-bath, the residue is exhausted with chloroform, the chloroform distilled off and its residue treated with boiling water. The filtered watery solution is concentrated at a very gentle heat to a very small volume. The crystals obtained on cooling are dried in warm dry air, and weighed.

THE ANALYSIS OF RANCID BUTTERS: BY ESTIMATION OF INSOLUBLE FAT ACIDS.

BY ELMER E. MEREDITH.

[ABSTRACT.]

The fat of butter is distinguished from all other fats in use by the fact that it includes a certain minor proportion of fat acids, which, when liberated, are at once easily volatile, and freely soluble in water. Therefore, when butter-fat is saponified by an alkali and the soap solution then acidulated with a strong acid, so that all the acids of the butter-fat are liberated, these acids present themselves in two very different divisions of matter, namely: (1) A larger part, of the consistence of ordinary fats, not dissolving or mixing with water to any extent, and not vaporizing or giving off any odor whatever, and (2), a smaller part, dissolving in water to a clear solution and easily vaporizing or distilling, with a constant and pungent odor, nearly resembling that of rancid butter itself.

The liberation of the volatile fat acids being one feature of the rancidity of butter, it is easy to understand why butter-fat becomes more easily and more pungently rancid than other fats. And we see why it is that, while well-kept butter is an eminently wholesome and valuable food-fat, illy-kept butter is far inferior to good meat-fat.

Many methods for the detection of foreign fats in butter have been from time to time proposed. Differences of melting point, and differences in solubility in benzole, in benzine, and in ether, have all been tried as a basis of separation, and have all proved unsatisfactory. Since 1874, the method introduced by Messrs. Hehner and Angell, based upon a quantitative separation between the soluble and the insoluble acids of the fat in question, has been generally adopted by the practical analysts of different countries, as the best means of finding the presence and approximate proportion of foreign fats in buttter. Next to this method, and as means of confirmation, stands the simple determination of specific gravity, as applied by J. Bell (1876: *Phar. Jour. Trans.*, VII, 85), and quite recently endorsed by Mr. Cassamajor, in this country (Sanitary Engineer, February 2, 1882). In the simplest form of Hehner and Angell's method, after a careful separation of the fat from the non-fatty parts of butter, the insoluble fat acids are separated and their quantity found in ratio to the whole fat—neglecting the quantity of the soluble fat acids. Numerous determinations by various chemists have established the fact that genuine butter (well preserved) has not more than 87.5 per cent. of insoluble fat acids, as an average of ordinary maximum results, or 88.5 per cent. as an unusual maximum—while common animal fats, as in "oleo-margarine," furnish about 95 per cent. of insoluble acids. In the use of conclusions drawn from the specific gravity of the fat (first freed from curd, water and salt), it is accepted that genuine and well-preserved butters have a specific gravity from 0.910 to 0.913, while suet and lard fats are decidedly lighter, standing from 0.902 to 0.904.

Now as to the effect of the rancid change upon these data for genuine butter-fat, in distinction from other fats. In his report to the Inland Revenue Department of the British Government, Mr. Bell (*Phar. Jour. and Trans.*, VII, 85), giving results of one hundred and seventeen genuine butters, states that *after long keeping* butters were found to have, in the clear fat, from eighty-eight to ninety per cent. of insoluble fat acid, and from 0.908 to 0.913 specific gravity—thus by keeping approaching the character of foreign fat in both the particulars relied upon to distinguish butter-fat from other fats. This statement finds support, here and there, in an incidental way, in the reports of various analyses of butter. It must occur that rancidity of butter would involve the loss of some soluble fat acid, and a corresponding increased proportion of insoluble acid,—but how far this alteration may go, in percentages, appears to lack needful determination up to this time. It has appeared probable to some analysts, that extremely rancid butter would give results coinciding with those from butter carrying fifteen to twenty per cent. of oleo-margarine fat.

It is certainly desirable that the effect of rancidity upon percentages of the analysis should be better known than it is. Analyses of the same butters, before and after rancidity, by the same process and with the same conditions, would be the most conclusive means of investigation. For the work here reported there was no opportunity of such comparative analyses, and it was even impracticable to obtain rancid butters known to be free from foreign fats. In the brief time given to the investigation, all that was undertaken was the analysis, by Hehner and Angell's method, of such rancid butters as could be found for sale in the shops. The results show that either rancidity works a decided change in the proportion of insoluble fat acids, or else the most of the rancid butters carry foreign fats.

The analyses were conducted exactly as laid down in Mr. Hehner's directions in his own contribution in *Zeitschrift für analytische Chemie*, XVI, 148, 152. The figures of the second column are obtained by calculation under Hehner's formula, namely: Per cent. of insoluble acids found, minus 87.5, the remainder multiplied by one hundred, the product divided by eight, equals the number of per cent. of foreign fat. The number eight is the difference between 95.5, the per cent. acids in meat fats, and 87.5, the per cent. insoluble acids in standard butter. And if, as suggested above, the per cent. of insoluble fat acids in genuine but rancid butter may rise higher than 87.5, then the data for calculation of adulteration will vary. Taking ninety per cent. from Mr. Bell's report, as an extreme but possible percentage of insoluble acid in rancid butter (genuine), we find, in that view, only two samples, III and VI, to exceed this limit, and appear as adulterated butters. Now substituting 90 for 87.5, and likewise substituting 5.5 (that is 95.5–90), for 8 (or 95.5–87.5), and we have still the representation of considerable adulteration in these butters, namely, forty-eight per cent. adulteration in III, and twenty-one per cent. adulteration in VI. Again, as ninety per cent. insoluble acids, by Hehner's calculation, indicates thirty-one per cent. of adulteration, therefore if thirty-one per cent. insoluble acids can be reached by real butter when rancid, such butter has obtained the composition of a mixture of sixty-nine per cent. of well-kept butter with thirty-one per cent. of meat-fats or "oleo-margarine."

In the last column, then, the "per cent. of adulteration," from Hehner's formula, may be interpreted as per cent. of adulteration which well-preserved butter would require, in order to reach the composition of these rancid butters, respectively.

Quality.	Per Cent. of Insoluble Fat Acids.	Per Cent. of Adulteration (?)
I. Well-preserved	87.4	......
II. Rancid	88.47	12.1
III. Rancid	92.7	65.0
IV. Rancid	90.4	36.2
V. Rancid	87.9	5.0
VI. Rancid	91.2	33.7
VII. Rancid	89.0	18.7
VIII. Rancid	89.0	18.7

AN EXAMINATION OF MIXED CANE AND STARCH SUGARS, WITH THE VIEW OF ASCERTAINING THE AMOUNT OF ADULTERATION.

BY CHARLES A. CRAMPTON, B. L., PH. C., MOLINE, ILLINOIS.

The adulteration of cane sugar with so-called "grape" sugar, or amylose, is a subject of ever increasing importance. The addition of "glucose" to syrups is a well understood fact, but it is not so well known what a large amount of mixed sugars are sold in this country. Allen,* whose work on Commercial Organic Analysis has just lately been issued, speaks lightly of the matter, and mentions the fact that a single case of such adulteration had been reported by Casamajor. Evidently the manufacture of starch sugar has not assumed the proportions in England that it has in this country. In fact it may be asserted, that here the adulteration of cane with starch sugar is only limited by the amount of pure white starch sugar that can be produced. Such being the case, the question of the amount of adulteration in the various grades of sugar becomes of much interest and importance. The only analyses of this kind that I can find are those made by Wiley,† who made an analysis of twelve specimens, without giving the character of the different samples.

These sugars are sent out by manufacturers of glucose and starch sugars *as mixed sugars*, and sold *as such* to the large jobbing houses. The latter generally put some fancy name upon them, and sell them under this brand to retailers. The latter, of course, retail them for straight sugars, the only difference made between them and other sugars being in price; and frequently not even this distinction is made, the less scrupulous retail grocer selling sugar which is one-fourth starch sugar, and which cost him six cents a pound, at the same price that his neighbor is selling "Yellow C" straight cane sugar, which cost him eight cents.

The specimens I have examined were samples of mixed sugars, put up by two different concerns in Buffalo, New York, and sent out by them to a wholesale dealer. They were put up in tin boxes, holding about an ounce and a half each, and distinguished simply by numbers. The names under which they are sold by the wholesale houses could not be obtained, and would be of no value anyhow. But in order to obtain a relative valuation of the different samples, I ascertained with the aid of a gentleman, who is a practical judge of sugars, the grade of cane sugar to which each sample most closely approximated in respect to color and general appearance. The starch sugar is white, or nearly so, so that the color of the mixed sugar would be about the same as the grade of cane sugar with which it was mixed, and for which it is most likely to be sold, perhaps a shade lighter.

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*Commercial Organic Analysis, Volume II, page 323.

†Proceedings of the American Association for the Advancement of Science, Volume XXX. "Science," October 1, 1881.

In the analysis the per cent. of cane sugar was obtained by Clergets method, the sample being first treated to destroy birotation, then cooled and the reading taken. Then another portion of the same sample was taken, heated to 68–70° centigrade, with one-tenth volume of hydrochloric acid, and the reading taken in an "invert" tube. The per cent. of sucrose (cane sugar) was then obtained by the formula, (which gives closer results than the tables):

$$\frac{(a - a')}{144 - \frac{t}{2}} \times 100 = \text{per cent. sucrose.}$$

In which a = first reading.
a' = second.
and t = temperature of solution.

Tucker* declares that this method will not give correct results when starch sugar is present. His blunder, however, has been pointed out by Casamajor† so I will not devote any further time to showing the falseness of his statement. The per cent. of sucrose being obtained, I added it to the per cent. of water and ash, subtracted the sum from one hundred and called the result the *percentage of adulteration*. To show that this method gives close results, and also to illustrate the method by which the per cent. of sucrose was obtained, I append an analysis of a sample of stick candy, containing amylose, which I obtained from the manufacturer:

Direct reading gave........................+103.4
Inverted at 24° centigrade gave....... —2.5

Difference...............................=105.9

$$\frac{105.9}{144 - \frac{24}{2}} \times 100 = \text{per cent. of sucrose} = 80.23$$

Per cent of water.....= 3.29
Per cent of ash........= .16

Total.................= 83.68
100—83.68=per cent. of adulteration= 16.32

After I had made the analysis I ascertained that the manufacturer, in making the candy, had used eight pounds of amylose to fifty pounds of cane sugar, which would give per cent. of amylose sixteen. There is a small error in the method for two reasons. First, the amylose itself contains a considerable amount of the total water present, and, second, an error arises from the heating with acid during inversion, as has been shown by Wiley.*

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* "Sugar Analysis," page 285.

† *Chemical News*, Volume XLV, page 150.

The per cent of water was determined by heating at a temperature of 125° centigrade for two hours. The per cent. of ash I did not ascertain in all cases. In several determinations I made the different samples run closely together, the average being about two per cent, and this was taken as the per cent of ash in all. The samples were always heated for some time before pulverizing, in order to destroy the birotation of the dextrose.

The use of lead acetate solution for clarifying was avoided, as far as possible, its use introducing quite an error, as I have shown in another paper.†

	Corresponding Grade of Cane Sugar.	Per Cent of Sucrose.	Per Cent of Water.	Per Cent of Adulteration.	Per Cent of Ash.	Per Cent of Reducing Power.
No. 1.	Golden C	55.10	3.29	41.41	.2	not taken
No. 2.	Golden C	54.83	3.68	41.29	.2	29.41
No. 3.	Golden C	59.88	3.49	36.43	.2	29.24
No. 4.	Golden C	77.04	5.90	16.86	.2	13.08
No. 5.	White Granulated, Coarse	72.50	3.04	24.29	.2	20.83
No. 6.	White Granulated, Fine	77.65	2.64	19.51	.2	18.52
No. 7.	Yellow Extra C	74.33	7.92	18.45	.2	17.70
No. 8.	Yellow Extra C	86.19	3.98	9.68	.2	6.80
No. 9.	Common Yellow	54.32	3.48	41.70	.2	32.89
No. 10.	Common Yellow	57.46	5.48	36.86	.2	29.07
No. 11.	Yellow C	53.26	6.67	39.87	.2	31.44
No. 12.	Common Yellow	63.86	7.14	28.80	.2	not taken
No, 13.	Common Yellow	64.76	6.39	28.65	.2	24.04
No. 14.	Common Yellow	60.45	5.85	33.30	.2	25.38
No. 15.	Common Yellow	64.25	3.76	31.79	.2	24.04
No. 16.	Common Yellow	61.91	5.10	32.79	.2	25.77
No. 17.	Yellow C	74.53	2.71	22.56	.2	15.58
No. 18.	Yellow C	65.04	6.31	28.45	.2	26.04
No. 19.	Yellow C	65.04	4.87	29.89	.2	28.96
No. 20.	Yellow Extra C	79.62	4.98	15.20	.2	not taken
No. 21.	White Powdered	91.10	3.65	5.05	.2	not taken
No. 22.	Golden C	59.40	5.13	35.27	.2	not taken
No. 23.	Yellow C	53.85	4.65	41.30	.2	not taken
No. 24.	Golden C	56.44	4.78	38.58	.2	not taken
No. 25.	Common Yellow	55.01	5.13	39.86	.2	not taken

The instruments used were: For the first twenty samples a Taurent "Grand Modile" No. 3; "Half Shadow" Polariscope, requiring 16.2 grams of pure sugar to read one hundred on the scale. For the last five samples a Scheidler's "Soleil Veulzke" instrument.

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* *Journal of the American Chemical Society*, Volume III.

† Unpublished.

SUMMARY.

Six samples, Golden C, wholesale price about eight and one-half cents per pound, gives per cent of adulteration as follows: Highest, 41.40; lowest, 16.86; average, 38.59.* Five samples, Yellow C, wholesale price about eight and one-fourth cents per pound, give per cent of adulteration as follows: Highest, 41.30; lowest, 22.56; average, 32.41. Eight samples common yellow, wholesale price about seven and three-fourths to seven and five eighths cents per pound, give per cent of adulteration as follows: Highest, 41.70; lowest, 28.65; average, 34.24. Three samples, Yellow Extra C, wholesale price about eight and five eighths cents per pound, give per cent of adulteration as follows: Highest, 18.45; lowest, 9.68; average, 14.44. One sample, white granulated, coarse, wholesale price about nine and three-fourths cents per pound, gives a per cent of adulteration of 24.29. One sample, white granulated fine, wholesale price about nine and five-eighths cents, gives a per cent of adulteration of 19.50. One sample, white powdered, wholesale price about ten and three-eighths to ten and one-half cents per pound, gives a per cent of adulteration of 5.05.

The reducing power was taken in most cases, simply to show its total inefficiency as an indication of the amount of amylose present. This is owing to the varying proportions of dextrose, maltose, and dextrin in the amyloses in commerce. In a series of eight solid starch sugars I have examined, I found the average per cent of reducing power to be 70.36, with a range from 66.67 to 75.76 per cent.

With regard to the detection of the adulteration: The dealers say they can tell the mixed sugars by the way they "handle." They are apt to cake and harden, and stick to the scoop and to the sides of the barrel. In the white granulated sugars the mixture of the white lumps of amylose with the crystalline sucrose can be readily seen, but in the brown sugars I find it difficult to detect the fraud by the appearance of the sugar. When a mixed sugar is shaken with cold water, the white lumps of amylose will remain undissolved for some time after all the sucrose has passed into solution.

The detection by chemical methods is an easy matter, qualitatively, the reduction test being the simplest and probably the best. I wish here to correct another error Tucker has made on this point.† In the first place his statement that so small a quantity as three to five per cent of adulteration can be detected by the birotation of the dextrose is entirely erroneous, as I have frequently found by direct experiment. The loss in rotatory power is so rapid, that I have failed to get any difference in rotation where there was as much as twenty per cent of amylose present. Again, another "qualitative" test he gives as follows:* "On account of the high rotatory power of starch sugar, a refined sugar mixed with it will show a larger percentage of cane sugar by the saccharimeter than the true one; hence the analysis generally adds up over one hundred. This will apply whether the material used for mixing is solid glucose or the syrup."

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* Rejecting one discordant result—the lowest.

† *Ibid*, page 285.

Aside from this being a singular qualitative test, depending upon a quantitative analysis, which must be made first, the assumption is entirely false. Mixed sugars, at least all that I have examined, do not rotate higher than straight sugars, rather less, if there is any difference. There is a very large percentage of dextrose in the highly converted amylose used for mixing with cane sugar, and the specific rotatory power of dextrose, (after heating) is about 53 for the sodium ray, whereas the specific rotatory power of sucrose for the same ray is 66. In the "glucose" syrups, where the percentage of the highly rotatory sugars, maltose and dextrin is greater, the rotation is much higher. The highest direct rotation I obtained with any of the samples above was 93.7, the lowest 78.5. This is about the range of the cane sugars of commerce, perhaps a little lower. The highest rotation I ever found in a solid starch sugar was 96.4 on the cane sugar scale. The glucose syrups will frequently go over one hundred. I have no doubt but that the manufacturers regulate their mixtures so as to have the polarization approximate as closely as possible to the corresponding grade of straight sugar. So these mixed sugars would probably pass muster with some chemists, even in the custom offices, who never invert a sugar, but take the first reading for the per cent of sucrose without further question.

ESTIMATION OF TIN IN CANNED FRUITS.

BY G. H. PALMER, PH. C., BELLEFONTAINE, OHIO.

That the tin cans, in which our fruits are purveyed to the general public, is acted upon by the organic acids of the fruits is a question which has been proven beyond a doubt. To what extent this action is carried on, is a problem which, when truly solved, is well worthy of the consideration of both packers and consumers.

This impurity in sufficient quantities is a corrosive poison. It is not probable that it exists in the fruits in sufficient proportions that the occasional use of it would cause the tin to produce its toxic effect, yet the constant absorption of this ingredient must surely have a deleterious action upon the human system. An interesting, as well as useful article may be found in Voulme V, page 218 of *The Analyst*, on the occurrence of tin in articles of food and drink, and on the physiological action of tin compounds. Also another extract in *The Chemical News* for July, Volume XLII, page 47.

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* *Ibid.*

My scheme for analysis was proposed to me by Dr. A. B. Prescott, and is as follows:

Place the fruit and juice in an evaporating dish and warm on steam bath for about one half hour; so that the juice of the fruit may be more thoroughly expressed. Strain through heavy cloth until all the juice has been extracted. Acidulate with hydrochloric acid. Into the solution pass sulphurretted hydrogen gas until it is thoroughly precipitated. Filter (the use of an aspirator at this point is advisable as the solution filters very slowly). Dissolve the residue with nitrio-hydrochloric acid on the filter, or pierce filter paper and digest on a water-bath, as the residue is quite difficult to dissolve. Filter, place the filtrate in a weighed porcelain crucible, add nitric acid and evaporate nearly or quite to dryness. Repeat this operation several times until the substance is nearly white. Drive off all the carbon with heat. Cool, and weigh as stannic oxide.

It is well to make a qualitative test to prove the absence of any other metals and the presence of tin.

Fuse the weighed residue with causic alkali, for one hour at high heat, which forms stannic acid, which is soluble in hydrochloric acid, ("Watt's Dictionary of Chemistry" Volume V, page 810). This solution may be reduced to a stannous salt by the addition of aluminium. From this solution make qualitative tests for tin and any other metal that might be present.

SAMPLE I.

This sample contained pears canned by Platt & Company Baltimore, Maryland.

Crucible+substance	22.504 grams.
Crucible	22.415 grams.
	0.089 stannic oxide.

SAMPLE II.

Contained pears from Fleming & Company, Baltimore, Maryland.

Crucible+substance	23.8363 grams.
Crucible	22.7152 grams.
	0.1211 stannic oxide.

SAMPLE III.

Pears, same as sample one. In this I found no residue.

SAMPLE IV.

Egg plums, put up by the Flour city packing company.

Crucible+substance	23.966 grams.
Crucible	23.862 grams.
	0.104 stannic oxide.

SAMPLE V.

Same as number four.

Crucible+substance	23.9683 grams.
Crucible	23.5571 grams.
	0.4112 stannic oxide.

SAMPLE VI.

Green Gages, from J. A. Bogert & Company, New York.

Crucible+substance	22.435 grams.
Crucible	22.425 grams.
	0.010 stannic oxide.

SAMPLE VII.

Same as number six.

Crucible+substance	22.6319 grams.
Crucible	22.6303 grams.
	0.0016 stannic oxide.

In this sample I was unable to obtain any test for tin.

SAMPLES VIII AND IX.

Were peaches from the Oneida community packers of Oneida, New York, and in neither of them was it possible to obtain any indication of the presence of tin.

SAMPLE X.

Pine apples, canned by D. D. Mallory & Company, Baltimore, Maryland.

Crucible+substance	22.8356 grams.
Crucible	22.6296 grams.
	0.2060 stannic oxide.

SAMPLE XI.

Same as number ten.

Crucible+substance	23.8921 grams.
Crucible	23.7620 grams.
	0.1301 stannic oxide.

In the analysis of the peaches I used two pound cans, but in all others only one pound cans.

In the samples where tin was most abundant the cans were exceedingly shop worn, and at the surface of the liquid the cans were somewhat corroded. Therefore, it would seem to me that any old cans of fruit should be suspected of being contaminated with tin. From my experience in this work, I conclude that tin is a general impurity, although not to any great extent. But nevertheless one which if only slightly injurious should be prevented.

COLORING MATTERS IN CONFECTIONERY.

BY MARY DILWORTH, PH. C., WEST CHESTER, PENNSYLVANIA.

Twenty-seven samples of colored candy were obtained from the grocers and confectioners of Ann Arbor and submitted to analysis. Of these twenty-seven specimens, red was the predominant color in eleven. In eight of these the coloring matter was aniline; in the other three, cochineal. Six specimens were yellow. Three were colored with vegetable matters; one with yellow-ochre; and two with aniline. One purple candy was colored with aniline only, while another contained aniline and ultra-marine. A black specimen owed its color to lamp-black. Three pink specimens contained aniline. A rose and a carmine specimen contained cochineal, and a blue candy was tinted with ultra-marine, and a violet one with aniline.

Some years ago the council of health of Paris made a list of dangerous and another of harmless coloring matters. The former included sulphides of arsenic and antimony, chrome yellow, salts of iron, lead, mercury and copper, and ultramarine. The list of harmless agents includes the vegetable coloring matters, such as indigo, logwood, saffron, tumeric, and litmus. At that time aniline was not used. The use of terra alba in confectionery was also prohibited on account of its indigestibility. Even the paper used in wrapping some candies is found to be injurious, containing, among other things, arsenic and copper, as Paris green. In Belgium and Switzerland the use of these papers has for a long while been prohibited. In France the manufacturer must place his name upon all boxes of confectionery, and he is held responsible for any harm that results from them.

Aniline Candies.—It will be seen that out of the twenty-seven specimens, fifteen contained aniline. The principal danger in aniline candies is in the probability of the aniline containing arsenic. However, although carefully sought for, no arsenic was found in any of my specimens. One candy consisted wholly of aniline, terra alba and starch, sugar being wholly absent. Aniline was found in large amount in the cheaper candies, as the "gum drops" and "stick candy." Pure rose aniline obtained in the amount it would be from candy is harmless.

Cochineal.—This is often said to be adulterated with poisonous substances such as red lead; but this metal was not found in the specimens examined.

Ultramarine.—This was formerly obtained from lapis lazuli, but is now made from washed kaolin, sodium carbonate, sulphur and charcoal. These substances are mixed and exposed to a high heat. The color is at first green, but by further oxidation becomes blue. It is harmful to the system, on account of the readiness with which its sulphides decompose.

CHEMICAL ANALYSIS OF BLOODROOT: *SANGUINARIA CANADENSIS.*

BY CHARLES W. DODD, PH. C., CINCINNATI, OHIO.

The analysis was conducted under Mr. Parsons' method of plant analysis—with the single variation of an increased length of time to the extraction with the benzole. A fair sample of the air-dry drug—the rhizome of the plant—was taken; a portion was subjected to full microscopical examination, and other portions submitted to chemical treatment, with the following results:

	PERCENTAGES OF AIR-DRY DRUG.		
Moisture, at 100° centigrade (212° Fahrenheit)			10.96
Total ash			7.88
Ash soluble in water, potassium chloride, carbonate, and phosphate		1.74	
Ash insoluble in water but soluble in hydrochloric acid,—magnesium phosphate, and carbonate, and traces of iron, and aluminium		3.20	
Ash insoluble as above, and in sodium hydrate solution,—silicious matters,		2.94	
By a special estimation, total acid of phosphates soluble in water, as PO_4,		0.28	
Total acids of phosphates insoluble in water, but soluble in dilute hydrochloric acid as PO_4		1.46	
Total phosphoric acid, as PO_4		1.74	
Benzole extract, total			2.66
Volatile oil		0.61	
Portion of this extract soluble in water		.0.41	
Of this, ash	0.13		
Organic	0.28		
Portion of benzole extract insoluble in water, but soluble in dilute hydrochloric acid, and responding to test for glucoside		0.02	
Part then dissolved by eighty per cent. alcohol, and containing resin, and chlorophyl		1.16	
Remainder of benzole extract insoluble in eighty per cent alcohol,—containing wax and resin		0.46	
Alcohol extract, from portion insoluble in benzole			19.88
Of this, ash	2.10		
Organic	17.78		
Portion of the extract soluble in water...		7.70	
Portion of the extract insoluble in water		12.18	
This alcoholic extracts contains			
Alkaloids,			
Resins,			
Color substances,			
but does not contain tannin.			
Water extract (following benzole and alcohol)			16.17
Of this, ash	2.40		
Organic	13.77		
This extract contains gums, dextrin, and coloring matters.			
Starch, total, as estimated by Fehling's solution after conversion into sugar			7.20
The remainder of the drug, thirty-five per cent in all, consists mainly of albuminous matters, and cellulose.			

An estimation of the quantity of alkaloids was undertaken as follows: Of the drug twenty grams were extracted with water slightly acidulated with hydrochloric acid, macerating twenty-four hours and filtering. To the clear filtrate was added nitric acid, which gives a bright red precipitate known as nitrate of sanguinarina. The filtrate from this precipitate, treated with water of ammonia, gives a grayish-white precipitate, dissolving in much water, with a red color. This dilute solution gave alkaloid reactions with nitrophenic acid, and phosphomolybdic acid. The first named reagent gave a slight yellowish-green precipitate, soluble when heated and precipitating again on cooling. The last named reägent gave a yellowish precipitate, forming slowly, and changed to blue by a slight addition of ammonia. The precipitate by nitric acid—"nitrate of sanguinarina"—weighed 0.215 gram (from 20. grams drug), or 1.07 per cent. The precipitate by ammonia amounted to 1.11 per cent. of the drug. These results are given, from a single trial in each instance, and they are not presented as quantities representing pure alkaloids.

ESTIMATION OF SALICIN IN WILLOW BARK.

BY MAXIMILLIAN GESSLER, PH. C., MILWAUKEE, WISCONSIN.

[ABSTRACT.]

Ten samples of willow bark were gathered from the trees, freed from cork layer, dried, ground to a coarse powder, dried again at 100° centigrade to a constant weight, and successively worked by the following scheme of analysis. The plan includes the partial separation of the salicin, its fermentation by dilute acid as a glucoside, and the volumetric estimation of the resulting glucose, in this using the "permanganate method." This analytical method proved very satisfactory in execution, and gave the following results:

(1)	2.18 per cent	(6)	2.26 per cent
(2)	2.26 per cent	(7)	2.46 per cent
(3)	2.23 per cent	(8)	3.13 per cent
(4)	1.06 per cent	(9)	3.12 per cent
(5)	2.38 per cent	(10)	2.42 per cent

The details of the work were as follows: Twenty parts of willow bark, with one hundred parts of water, and two parts of lime, are digested for twenty-four hours in a warm place, then boiled an hour, and the mixture strained. The residue is washed on the strainer, with hot water, until a few drops of the filtrate, evaporated to dryness on a porcelain slab, no longer give a red color with a drop of sulphuric acid. The expressed liquid is evaporated to dryness on a water-bath, the residue well mixed with five parts of purified animal charcoal, and the dried mass extracted with alcohol of eighty per cent., washing the residue thoroughly with the solvent. The alcoholic solution is evaporated to dryness, this residue dissolved in water, and treated for the glucosic fermentation of the salicin, by boiling fifteen minutes with dilute sulphuric acid. The mixture is now neutralized with sodium hydrate solution, and is ready for the volumetric estimation of the glucose. The molecular-weight of glucose, one hundred and eighty, is to the molecular weight of salicin, two hundred and eighty-six, as the weight of glucose estimated, is to the weight of salicin sought.

In the estimation of glucose by final treatment with the permanganate, an excess of Fehling's solution is added, the mixture boiled for an hour, filtered, the cuprous precipitate washed with hot water, dissolved in ferric sulphate acidulate solution, and the ferrous iron estimated by a permanganate solution of known strength. The quantity of permanganate decolored, multiplied by the factor 1.1385, expresses the quantity of glucose.

A CHEMICAL ANALYSIS OF JAMAICA DOGWOOD: *PISCIDIA ERYTHRINA*.*

BY WILLIAM HEIM, PH. C., EAST SAGINAW, MICHIGAN.

[ABSTRACT].

The root-bark of Jamaica dogwood, a drug now under medical investigation, has received a full botanical and microscopical description, but hitherto, it is believed, no full chemical analysis of it has been reported. Therefore it was selected as the subject of a plant analysis, upon the scheme of Mr. H. B. Parsons. The quantitative separations may be summarized as follows:

- Moisture, by loss at 100° to 120° centigrade, 11.22 per cent. of the drug.
- Total ash... 14.30 per cent. of the drug.
  - Soluble in water, potassium chloride and sulphate, 6.93 per cent. of the ash.
  - Insoluble in water, soluble in hydrochloric acid, magnesium and calcium phosphates, and iron, 80.06 per cent. of the ash.
  - Insoluble, silicious matters, 12.97 per cent. of the ash.
- Benzole extract. (A trace of volatile oil, no alkaloid, no resin. Presence of a glucoside), 4.80 per cent. of the drug.
  - At 110° centigrade this extract lost only 0.21 per cent. of itself (volatile oil).
  - Only 0.30 per cent. of it dissolved in water; 16.70 per cent. of it dissolved in dilute hydrochloric acid; and 41.20 per cent. dissolved in alcohol of .80 per cent. The presence of a glucoside was noted in the part soluble in water.
- Alcohol extract. (Contains an alkaloid, resins, chlorophyl, ash) 18.20 per cent. of the drug.
  - Of this extract, 9.2 per cent. was ash, and 62 per cent. was soluble in alcohol of 95 per cent. The extract was obtained with 80 per cent. alcohol, from the drug left undissolved by the benzole.
- Cold water extract (following the alcohol), 23.06 per cent. of the drug.
  - Of this, 8.4 per cent. was found to be ash.

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*A report of this analysis is published in *The Therapeutic Gazette*, July 15, 1882, page 254.

The drug was also treated especially for *an alkaloid*, by extracting with alcohol acidified with hydrochloric acid. From this treatment, as well as from the alcohol extract obtained in the scheme of separation, evidences of an alkaloid were obtained, as follows: Precipitates of abundance with solution of iodine in potassium iodide, with potassium mercuric iodide, and with phosphomolybdic acid. The last named reagent gave a precipitate turning blue. Careful tests were made for *tannic acid*, both in the extracts obtained in the systematic analysis, and in an aqueous extract obtained from the drug for this purpose, with the result of showing tannic acid to be absent. (Nagle reported the presence of tannic acid in this drug). A concentrated preparation, made by precipitation of the alcoholic solution by adding it to water, as "resinoids" are manufactured, would consist mainly of the resin, and under ordinary conditions of the preparation would probably contain some proportion of the alkaloid. Further work is required upon the alkaloid.

CHEKEN LEAVES: CHEMICAL EXAMINATION.

BY JOHN HOEHN, PH. C., CLEVELAND, OHIO.

[ABSTRACT.]

The leaves of the *Myrtus Chekan* (Nat. Ord., Myrtaceæ), indigenous to the central provinces of Chili, have been several years upon trial, as a tonic, expectorant, and diuretic medicine. It is chiefly used in fluid extract, and in doses from one to three fluid drachms. It is described by an old writer on the medicinal plants of Chili. As a drug it is obtained from its natural source, in South America, and was introduced in England, it is stated, as early as 1862. The botanical description of the plant, as cultivated in the Kew gardens, was published in the *Botanical Magazine* in 1866. The only chemical analysis of Cheken found to have been reported was a partial analysis by Mr. C. H. Hutchinson, presented by E. M. Holmes, F. L. S., in a paper read at an evening meeting of the British Pharmaceutical Society, in 1879 (*Phar. Jour. and Trans.*, London, IX, 653. *Therapeutic Gazette*, Detroit, 1881, October, page 395)*.

The sample of the drug taken for analysis was kindly furnished by Messrs. Parke, Davis & Co., of Detroit. The chemical examination was made to follow the scheme of Mr. H. B. Parsons's Plant Analysis (*Am. Chem. Jour.*, I, 377, reprinted; *Jour. Chem. Soc.*, London, 1880, page 754; *Am. Jour. Phar.*, LII, 210), this scheme being preferred to that of Rochleder, or Wittstein.

The air-dry leaves, powdered to pass a number twenty seive,

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*A paper on the use of cheken in cases of winter cough, in the Royal Hospital for Diseases of the Chest, is given by William Murrell in the *London Practitioner*, 1881.

were treated according to the scheme, in a portion of five grams, (1) for moisture, (2) for ash, (3) for benzole extract, (4) for alcoholic extract, (5) for cold water extract, and (6) for acidulous water extract—with estimations and analytical work upon each extract obtained. The extractions were obtained by continuous percolation. The following is a summary of results:

				PER CENT. OF DRUG.
Moisture, by drying at 80 to 90° centigrades,				9.48
Total ash				9.48
Ash soluble in water, potassium chloride and potassium sulphate			0.68	
Ash insoluble in water, and soluble in hydrochloric acid, aluminium, calcium, magnesium, as phosphates and carbonates			5.61	
Ash insoluble in hydrochloric acid, but soluble in sodium hydrate solution			0.73	
Total benzole extract				8.74
Volatile oil in benzole extract			3.70	
Benzole extract dissolved by water, and responding to the test for a glucoside			0.50	
In this portion, a quantity of ash		0.14		
Organic matter		0.35		
Benzole extract not dissolved by water, but dissolved by hydrochloric acid, and responding to the test for a glucoside			0.45	
Benzole extract not dissolved as above, but dissolved by eighty per cent. alcohol—chlorophyl and resins			2.08	
Benzole extract undissolved as above, wax, and fat oils			1.89	
Total alcohol extract (from part insoluble in benzole)				22.86
Precipitate separated on cooling		2.96		
Ash from liquid portion,	2.47			
Portion of this ash not soluble in water		1.02		
Organic portion insoluble in water		7.25		
Total from the liquid portion, that is dissolved in water		11.63		
The alcohol extract contained tannin, glucoside, and organic acid.				
Total cold water extract (following the alcohol)				3.90
Ash from this extract	1.05			
Starch, from acidulous water extract				6.85
Tannic acid, from a separate portion of drug,				4.20
Albuminous matter and cellulose				48.17

As detailed above, it appears that *glucosides* were found, (1) soluble in benzole and not in water, (2) soluble in benzole and in water, and (3) insoluble in benzole but soluble in alcohol. *Volatile oil* was found soluble in benzole, and amounting to 3.7 per cent. of the drug. *Resins* were found, (1) soluble in benzole and in alcohol, (2) insoluble in benzole and soluble in alcohol. No decisive evidences of the presence of an *alkaloid* were obtained in any portion. The phosphomolybdic test, alone, give indication coinciding with the presence of an alkaloid, in small quantity, in the benzole extract, portion soluble in water, but the indication did not obtain any further support. *Organic acids* were obtained from the alcoholic extract, which also yielded *tannic acid*, though this was determined in a total of 4.2 per cent. of the drug, from an extract obtained for this purpose, as directed by Allen (*Chemical News*, XXIX, 189).

In Mr. Hutchinson's examination, before referred to, volatile oil, resin, and tannic acid were obtained, and the phosphomolybdate test presented the same indication mentioned above. The properties of the volatile oil were reported by Mr. Hutchinson and verified in this examination as follows:

In odor, oil of cheken resembles oil of bay, as does also the rectified oil of common myrtle. It is lighter than water, causes a transient stain on paper, and dissolves in chloroform, ether, alcohol and amyl alcohol, but is very little soluble in water. It burns with a brilliant white flame.

A full microscopic examination of the plant was made, and will be elsewhere reported.

CHEMICAL ANALYSIS OF VERATRUM VIRIDE.

BY MAY McNEIL, PH. C., UNION CITY, OHIO.

[ABSTRACT].

This work, which was done in connection with microscopic work upon the same drug, was limited to estimations of the quantity of total alkaloids, and of total resins, by trial of different methods of analysis upon the same sample of material—the air-dry rhizome.

In the *first* estimation, the finely powdered drug was treated with boiling alcohol, the mixture macerated twenty-four hours, then strongly expressed and filtered. The filtrate was evaporated to dryness. The residue so obtained was digested with water acidulated with hydrochloric acid and filtered. The residue of this filtration, to be weighed as resin; the filtrate, concentrated, treated with potassium carbonate solution. (On trial, this reagent failed to cause a precipitate). In the *second* estimation, precipitation was accomplished by potassium hydrate solution. In the *third* estimation, ammonium hydrate was employed for precipitation, the drug having been first exhausted by forty-eight hours maceration with hot alcohol. In the *fourth* trial, the precipitation by ammonia was conducted in hot solution, and the precipitated mixture heated for fifteen minutes before filtration. In the *fifth* operation, the acidulation of the water used to dissolve the alkaloid from the residue was by sulphuric acid instead of hydrochloric acid. The *sixth* and *seventh* operations were conducted the same as the fifth. In the *eighth* estimation, exhaustion with cold alcohol was tried, the result being an almost entire failure, and the precipitates not weighed. In the *ninth* and *tenth* operations, the powdered drug was first macerated for two days with milk of lime, and then the treatment continued as in the fifth trial.

The results were as follows:

Estimation.	Per Cent. of Alkaloids.	Per Cent. of Resins.
First	......	......
Second	0.37	......
Third	0.21	1.19
Fourth	1.21	1.92
Fifth	0.73	1.89
Sixth	0.55	......
Seventh	0.74	1.85
Eighth	......	......
Ninth	0.60	......
Tenth	0.69	......

ALUM IN PATENT FLOUR.

BY JOHN J. DENNISON, PH. C., WHITEWATER, WISCONSIN.

It is a well known fact that there is an appreciable amount of alum in many baker's breads and alum has been put into flour in England and other countries, where quite heavy fines have been imposed for so doing.

There has been an impression amongst some, that into many of the so-called "Patent Flours" of this country alum had been introduced.

Twenty-three (23) samples of flour were obtained from the following places: Ann Arbor, Detroit, Hillsdale, Jackson, Whitewater, Wisconsin, and Cleveland, Ohio.

In no flour did I find any alum, testing by the "logwood test" as proposed by J. W. Thomas (*Analyst*, Volume VI, page 33, 1879), which is as follows:

"Make a dilute aqueous solution of logwood. Take a small quantity of flour and rub it up well in a glass mortar with the dilute solution of logwood, to which a few drops of ammonium carbonate solution have been added. The solution of logwood should be only slightly darker in color than a saturated solution of potasium acid chromate. Convert the flour into a very thin paste."

If there is alum in the flour it will turn light blue on standing and if there is no alum in it the color at first will be pink and slowly turn brownish.

This test was first suggested by Hadow in 1858, and was not received with much confidence of its success, as it fails under many circumstances. But Dr. Dupré in *The Analyst* (Volume VI, page 5, 1879) says, after giving his method of quantitative analysis:

"In conclusion I may remark that as far as my experience goes, no flour need be examined for alum if when examined by the logwood test it yields no indication of its presence.

"Should, however, alum be indicated by this test, the flour must be submitted to other tests in order not only to confirm the presence of alum, but also to estimate its amount."

In order to make this test thoroughly reliable it is better to try the sample of flour with the logwood solution and pour one-half of the quantity of paste on a glass plate; then to add to the remainder in the mortar a few drops of a very dilute solution of alum, and after stirring thoroughly pour this also on the plate.

If, after standing, the part to which the alum has been added is blue, it proves that the logwood solution is good and the test reliable.

The logwood solution in order to obtain the test must be made fresh at every trial, and should have the potassium permanganate color when applied.

In some cases it failed to give the blue with the alum solution, but those could be accounted for.

At one trial the logwood solution was too dilute and would not give the pink color with the flour at first.

Another time five or six samples were tried and on the last few it failed on account of having stood too long.

If too much ammonium carbonate is added to the logwood solution it is apt to fail.

The alcoholic solution of logwood has been tried but without much success.

The result of these tests, namely, finding no alum in any of the samples examined, seems to show that when alum is found in baker's bread, it is put there by the baker and not by the miller.

THE ESTIMATION OF THE ALCOHOL IN MALT LIQUORS.

BY LOUIS J. FASQUELLE, PH. C., SAINT JOHNS, MICHIGAN.

In Volume CXXXI, page 207, of the American edition of the *London Quarterly Review*, is a very full and interesting description of one of the best methods employed in the manufacture of malt liquors. Although too long to insert here, it is well worthy the perusal of anyone at all interested in such work.

The name lager beer is and always has been much misused. The term as now used is applied to beer which is just from the vats, while that substance popularly known as "bock beer" is in reality lager beer. Lager beer, in the original sense, was beer which has lain in "lager" or casks for a number of months and has thus become aged. In the estimation of twelve samples of malt beverages, I used the following process:

Fill a fifty-gram specific gravity bottle, with neutralized beer (it being neutralized or rendered slightly alkaline by a sufficient portion of potassium hydrate), place the contents of the bottle in a small glass retort, rinsing the bottle with small portions of water and adding to the contents of the retort, and distill into specific gravity bottle until it is full, when on taking the specific gravity of it the per cent. of alcohol can be determined by reference to the tables in Prescott's Analysis of Alcoholic Liquors. I found the glycerine bath to be the safest and most speedy method for applying heat.

The following is a table of results obtained. The results are only approximate in most cases:

Number of Sample.	Malt Liquors.	Per Cent. of Alcohol by Weight.
1.	From Peninsular Brewery, Detroit	4.81
2.	Bass' Ale	5.61
3.	Bass' Stout	7.24
4.	Schlitz's Milwaukee Lager	4.
5.	Niagara Beer	8.87
6.	From Toledo Brewing and Malting Company	4.81
7.	Farrell's East India Ale	4.81
8.	Farrell's East India Porter	5.61
9.	Best's Milwaukee Export Beer	4.81
10.	Carling s Porter	7.42
11.	Tennent's Pale Ale	5.61
12.	Tennent's Stout	6.43

THE PHYSIOLOGICAL ACTION OF CITRATE OF CAFFEINE ON THE URINE.

BY W. H. WHITE, PH. C., MENDON, NEW YORK.

My object is to show how citrate of caffeine affects the quantity of urine, and the sulphates, phosphates, chlorides and urea in the urine.

The method of working was as follows: I first analyzed ten successive samples of urine before taking the citrate of caffeine (each sample being one day's urine), to establish the average excretion of sulphates, phosphates, chlorides and urea per day.

I then took five grains of citrate of caffeine per day and analyzed each day's urine, estimating the same substance as before. This analysis showed the effect of citrate of caffeine upon these substances in the urine.

Lastly I analyzed a third ten samples, to show that caffeine had some effect on the urine for some time after taking the last dose.

The method used for estimating the quantity of sulphates, phosphates, chlorides and urea was found in Dr. Vaughan's "Chemical, Physiology and Pathology."

[The methods of analysis are omitted].

TABLE I.—SHOWING ESTIMATION OF SULPHATES, CHLORIDES, PHOSPHATES AND UREA BEFORE TAKING CAFFEINE:

Sample.	Sulphates.	Phosphates.	Chlorides.	Urea.	Amount	Specific Gravity.
Number 1...........	2.337	2.929	13.12	36.21	945	1031
Number 2..	2.189	2.288	12.82	32.019	995	1025
Number 3...........	3.6	1.92	13.21	37.291	1200	1018
Number 4...........	4.51	3.335	12.608	40.123	1150	1025
Number 5...........	4.94	2.85	12.002	37.4	950	1026
Number 6...........	4.029	2.844	12.446	34.62	1185	1026
Number 7...........	3.575	2.925	12.001	36.212	1625	1030
Number 8...........	5.742	2.435	12.43	35.281	990	1030
Number 9...........	4.944	2.884	11.821	34.231	1090	1025
Number 10...........	4.56	1.9	12.001	36.281	950	1030
Average per day...	4.0426	2.6310	12.4459	35.9668	1102	1026.6

TABLE II.—SHOWING ESTIMATION OF SULPHATES, CHLORIDES, PHOSPHATES, AND UREA WHILE TAKING CAFFEINE.

Sample.	Sulphates.	Phosphates.	Chlorides.	Urea.	Amount	Specific Gravity.
Number 1...........	3.892	3.217	11.624	40.231	1390	1020
Number 2...........	2.35	3.172	12.321	39.236	1175	1028
Number 3..........	2.415	4.267	12.411	35.294	1125	1025
Number 4..	4.356	3.23	12.138	31.237	1075	1033
Number 5...........	2.235	2.472	12.632	30.911	1090	1022
Number 6...........	2.848	2.975	11.639	30.237	850	1034
Number 7...........	2.23	2.85	12.102	31.281	1050	1025
Number 8...........	2.52	3.72	11.231	32.798	1200	1024
Number 9...........	2.775	3.98	11.632	32.768	925	1030
Number 10...........	2.66	3.325	12.011	31.211	950	1033
Average per day...	2.9341	3.3208	11.9741	33.5204	1273	1026.9

TABLE III.—SHOWING ESTIMATION OF SULPHATES, CHLORIDES, PHOSPHATES, AND UREA AFTER TAKING CAFFEINE.

Sample.	Sulphates.	Phosphates.	Chlorides.	Urea.	Amount	Specific Gravity.
Number 1..........	3.087	3.1	12.24	31.211	1100	1025
Number 2..........	3.889	2.299	12.301	33.281	1221	1033
Number 3..........	3.281	2.101	13 321	32.758	1030	1025
Number 4..........	3.679	3.321	11.121	35.231	970	1030
Number 5..........	4.164	2.95	12.891	40.236	1040	1026
Number 6..........	4.432	2.843	12.131	32.116	1140	1026
Number 7..........	3.624	2.925	11.32	31.237	950	1030
Number 8..........	5.262	3.445	12.23	41.231	1200	1020
Number 9..........	4.314	2.1	12.019	32.271	990	1022
Number 10..........	3.705	3.221	11.112	36.294	1225	1011
Average per day...	3.8437	2.8305	12.2686	34.5906	1096.6	1025.8

These results show that coffee is a valuable force regulator, lessening nitrogenous waste, while it stimulates the nervous system. Upon this probably depend the food value of coffee.

ESTIMATION OF SULPHUROUS ACID (SO$_2$) IN SULPHITES, BISULPHITES AND HYPOSULPHITES OF CALCIUM AND SODIUM.

BY R. JOSENHANS, PH. C., DETROIT, MICHIGAN.

[IN ABSTRACT.]

The object of this work was to ascertain the percentage of SO$_2$ in the different sulphites, bisulphites, and hyposulphites of lime and soda. For this purpose I was able to obtain about forty-five samples, most of them from well-known and reliable firms, such as Powers & Weightman, also some of E. Merk, of Darmstadt, and of Dr. Schuchardt, of Gœrlitz, both renowned German manufacturers of chemicals. Most of these samples I got in Ann Arbor of the various druggists, especially of Messrs. Eberbach & Son, and some of them I procured in Detroit. Of course, I could not obtain of all the name of the manufacturer, as they were mostly bought from wholesale houses which put their own labels on the bottles.

[The methods of analysis are omitted.]

	No.	Salts.	Manufacturer.	Percentage of SO_2.	Contains.
Bisulphite of Soda, Chemical Pure.	1	Bisulph. of Soda,	E. Merk, Darmstadt,	.3366	H_2SO_4
	2	Bisulph. of Soda,	Schuchardt, Gœrlitz,	.3841	H_2SO_4
	14	Bisulph. of Soda,	E. Merk, Darmstadt,	13.288	H_2SO_4
	15	Bisulph. of Soda,	E. Merk, Darmstadt,	2.009	H_2SO_4
	16	Bisulph. of Soda,	E. Merk, Darmstadt,	4.475	H_2SO_4
	20	Bisulph. of Soda,	E. Merk, Darmstadt,	12.519	H_2SO_4
	42	Bisulph. of Soda,	Rosengarten & Sons,	6.552	H_2SO_4
	43	Bisulph. of Soda,	Powers & Weightm'n	1.965	H_2SO_4
	44	Bisulph. of Soda,	E. Merk, Darmstadt,	13.824	H_2SO_4
	45	Bisulph. of Soda,	Schuchardt, Gœrlitz,	1.115	H_2SO_4
Bisulph. of Soda, Com'l.	7	Bisulph. of Soda,	Schuchardt, Gœrlitz,	8.291	H_2SO_4
	11	Bisulph. of Soda,	E. Merk, Darmstadt,	12.496	H_2SO_4
Sulphite of Soda, Chemical Pure	3	Sulphite of Soda,	Powers & Weightm'n	14.158	H_2SO_4
	4	Sulphite of Soda,	Schuchardt, Gœrlitz,	4.298	H_2SO_4
	6	Sulphite of Soda,	E. Merk, Darmstadt,	6.876	H_2SO_4
	28	Sulphite of Soda,	E. Merk, Darmstadt,	11.928	....
	36	Sulphite of Soda,	Powers & Weightm'n	14.547	....
	37	Sulphite of Soda,	Schuchardt, Gœrlitz,	10.725	H_2SO_4
	38	Sulphite of Soda,	E. Merk, Darmstadt,	8.684	H_2SO_4
Sulph. of Soda, Commercial.	5	Sulphite of Soda,	Schuchardt, Gœrlitz,	17.174	H_2SO_4
	9	Sulphite of Soda,	E. Merk, Darmstadt,	8.153	H_2SO_4
	25	Sulphite of Soda,	E. Merk, Darmstadt,	17.814	H_2SO_4
	32	Sulphite of Soda,	E. Merk, Darmstadt,	16.79	H_2SO_4
	33	Sulphite of Soda,	Powers & Weightm'n	11.925	H_2SO_4
Sulph. of Lime, Com'ercial.	12	Sulphite of Lime,	Powers & Weightm'n	25.222	....
	23	Sulphite of Lime,	Powers & Weightm'n	28.789	....
	34	Sulphite of Lime,	Powers & Weightm'n	25.239	....
	35	Sulphite of Lime,	Rosengarten & Sons,	20.965	....
Hyposulph. of Soda, Commercial.	8	Hyposulph. of Soda	Powers & Weightm'n	15.664	H_2SO_4
	24	Hyposulph. of Soda	Powers & Weightm'n	16.864	H_2SO_4
	30	Hyposulph. of Soda	Powers & Weightm'n	19.565	H_2SO_4
	31	Hyposulph. of Soda	McKesson & Robbins	14.364	H_2SO_4
	39	Hyposulph. of Soda	Rosengarten & Sons,	14.923	H_2SO_4
	40	Hyposulph. of Soda	E. Merk, Darmstadt,	11.20	H_2SO_4
	41	Hyposulph. of Soda	Powers & Weightm'n	15.493	H_2SO_4
Hyposulphite of Soda, Chemical Pure.	10	Hyposulph. of Soda	Schuchardt, Gœrlitz,	16.886	H_2SO_4
	13	Hyposulph. of Soda	Powers & Weightm'n	13.515	H_2SO_4
	17	Hyposulph. of Soda	Schuchardt, Gœrlitz,	15.53	H_2SO_4
	18	Hyposulph. of Soda	E. Merk, Darmstadt,	15.051	....
	19	Hyposulph. of Soda	E. Merk, Darmstadt,	17.6	....
	21	Hyposulph. of Soda	E. Merk, Darmstadt,	19.346	....
	22	Hyposulph. of Soda	Powers & Weightm'n	12.624	....
	26	Hyposulph. of Soda	Schuchardt, Gœrlitz,	24.78	....
	27	Hyposulph. of Soda	Schuchardt, Gœrlitz,	20.297	....
	29	Hoposulph. of Soda	E. Merk, Darmstadt,	22.713	H_2SO_4

These results show that many of the sulphites, bisulphites and hyposulphites used by physicians are well-nigh worthless. Care must be used in making selections.

ARSENIC IN WALL PAPER.

BY A. A. JONES, PH. C., GRAND RAPIDS, MICHIGAN.

The subject of arsenic in wall paper, and its injurious effects on the health of persons who cover their walls with arsenical paper, has been discussed to a great extent.

In 1861 arsenic was used to considerable extent in green and drab papers. About this time Professor C. H. Porter, of the Albany Medical College, analyzed several samples, ten of which contained from eight to sixty grains of arsenic to the square foot. The others averaged about thirty grains to the square foot. (*Berkshire Medical Journal*, Volume I, page 201).

Since 1861 public opinion has been so strong against the use of arsenic in papers that it is rapidly going out of use in poisonous amounts.

In 1874 the Michigan Board of Health reported three cases of arsenic poisoning from wall paper. The papers were analyzed, and found to contain 5.47, 4.87, and 1.87 grains of arsenic to the square foot.

In my work I have analyzed fifty samples of paper, obtained from one of the best stocks in Grand Rapids. In getting my samples I selected from the cheaper to the best papers so as to get a good representation of papers as a whole. In selecting samples I found that there are not as many green papers made at present as there have been, and that they are rapidly going out of use.

Out of fifty analyzed I found only three that contained arsenic in dangerous amounts. They contained respectively 17.08, 11.76, and 9.47 grains of arsenic to the square yard. Twenty-eight of the papers had no arsenic in them at all. The other nineteen contained mere traces, due to anilin dyes, but did not warrant a quantitative estimation. These were the best papers. The three with large amounts were the middle grade of papers. The one containing the largest amount of arsenic was drab. The others were green.

Arsenic is found in paper as Scheele's green or arsenite of copper, also called Sweedish green. Another form is Schweinfurt's green or aceto-arsenite of copper, also called Vienna green, both going under the common name of Paris green. These when mixed with other substances as copper-sulphate or carbonate form different shades as mountain green, Brunswick green, etc. Brown and green mixed form a drab, so one paper is as liable to contain arsenic as another.

Arsenic in paper is likely to prove poisonous by being erased from the wall by different articles of furniture and being suspended in the air, and inhaled into the lungs where it acts as rapidly as if taken into the stomach. Children are liable to rub their fingers on the wall and carry it to their mouths.

[TO BE CONTINUED].

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ORIGINAL ARTICLES.

PRACTICAL SUGGESTIONS RELATIVE TO THE TREATMENT OF INSANITY.*

BY HENRY M. HURD, A. M., M. D., PONTIAC, MICHIGAN.
Superintendent Eastern Michigan Insane Asylum.

My aim this time is to present a few practical suggestions relative to the diagnosis and treatment of insanity. It is my desire to furnish data, which will assist in describing insanity in such language as will be intelligible to others, to discriminate the various forms of mental disease, and to suggest briefly certain lines of treatment. During an asylum residence of a dozen years, it has been my fortune to receive hundreds of letters from medical men of acknowledged eminence, and of excellent standing in the profession, which failed to give adequate descriptions of the condition of insane patients, or at least such descriptions as would convey any conception of the mental condition of the person to the one who read the letter. It has frequently been impossible to determine from these written descriptions whether the patient was suffering from mania, melancholia, dementia, general paresis, or imbecility, or in fact to ascertain any thing very clearly except the fact that the man was regarded insane. The terminology of mental disease is not difficult, and the description of insane conditions should be as clear and accurate as that of other diseased conditions. To

* Read before the Ann Arbor Medical and Surgical Society, May 25, 1882.

this end it is desirable to have a general classification of all cases of insanity which will in itself serve to roughly discriminate varying mental conditions, and help to relieve a difficulty which is always felt when an effort is made to describe a condition which is known mainly by mental manifestations. When called to see an insane person it is always well to call to mind Griesenger's general division of all insane conditions into either states of mental exaltation, states of mental depression, or states of mental weakness, and to ask the question does this man display exaggerated mental action, and an apparent increase of mental vigor, or is he depressed and unwilling to use his faculties in a natural manner, or is he unable to do so; —is his mind actually lost? If he is in a state of mental exaltation he will be loquacious, excitable, extravagant in language and action, lacking in self-control, regardless of propriety, under the influence of morbid impulses, and very unnatural in conduct. If he is in a state of mental depression he will be taciturn, disinclined to action, or to conversation, or if he converses it will be in a tone of reproach and self-condemnation. He will be disinclined to the society of his fellows, abnormally sensitive to the actions of those about him, and unable to display any interest in what is unconnected with his morbid fancies. He is reserved, moody, suspicious, often irritable, and complains that nothing gives him pleasure. The sun no longer shines with its former light; the faces of near and dear friends seem averted; the whole world is covered with a pall. If he is in a state of mental decay he will be unable to express himself clearly, or without great effort, or he may be incoherent and foolish.

The insane man who presents a condition of mental exaltation is suffering from one of three conditions, mania, monomania, or general paresis. There are exceptions which will be noted, but these broad statements are accurate enough for our present purpose. In acute mania we have an extravagance of thought, feeling and action. The patient is excited, incoherent, loquacious, under the influence of changing delusions, often destructive and violent, and dangerous to himself and others. His excitement is for the most part purposeless, and definite and controlling impulses are absent. He generally loses appetite, does not sleep at night, suffers from emaciation, and by his general appearance shows a depression of vitality. In some instances there is simply present a degree of intellectual elation without delusions. Cases of sub-acute or persistent mania and of chronic mania present essentially the same characteristics, and the terms sub-acute and chronic are useful merely as descriptive of the length of time the disease has existed, and not as indicating any change in the character of the disease. The same is true of monomania. A monomaniac has fixed delusions as to one object or class of objects. It is as if he had passed through a severe storm of mental excitement, the waves of which have left him stranded upon a barren beach. He is so to speak in a constant state of mental exaltation minus the excitement which is characteristic of acute mania. He has likewise the exaltation of acute mania, but is not incoherent and uncontrollable. There is method in his madness, and a quietness which is often misleading. Out of the fragments which remain to him after his shipwreck he has constructed a new life. His delusions have assumed form, and he is to all intents a new creature.

In general paresis the predominant feature is extreme mental exaltation. The French, indeed, have named it ambitious delirium from this characteristic. The general paretic is in his own estimation immensely strong in body or vigorous in mind, or is possessed of untold power and importance. He cherishes huge business schemes, and unfolds mighty projects. He plans lines of steamers to extend continuously from New York to Liverpool, projects railways to the moon, or tunnels under the Atlantic ocean. One patient under my care spent his time in setting out worlds which he fancied grew up about him like turnips and cabbages. Another was engaged in painting the sky which he reached without difficulty, owing to his astounding physical proportions. Another constantly heard trains of cars passing upon the neighboring railway line loaded with diamonds and other precious stones which belonged to him. Accompanying these extravagant delusions there is always more or less muscular incoördination and paralysis. It is generally noticed first in the muscles of the face when the lines which give the finer expressions are effaced and afterwards is observed in the clumsy gait, the changed handwriting and various ataxic symptoms. Mania, monomania, and general paresis have then this in common, namely, a state of general mental exaltation. On the other hand when there exists a state of mental depression we have to deal with melancholia. In melancholia there is marked depression of physical forces and of mental action, as shown by general derangement of bodily secretions, inability to assimilate food, sleeplessness, loss of appetite, emotional disturbance, often delusions of apprehension and homicidal or suicidal impulses. If any excitement is present it is the excitement of fear, and is transitory in its character. In the majority of instances there is first a simple sense of distrust or a vague distress, which the patient cannot definitely express. He feels ill at ease and unnatural. He fears a calamity, but cannot satisfactorily describe it even to himself. As his disease progresses these apprehensions which were at first vague and obscure take form and attach themselves to something intimately connected with the individual. At this stage dangerous impulses become developed and the energies of the patient which had previously been dormant are now actively engaged in devising ways and means of accomplishing whatever harm to himself or others the delusions dictate. If states of mental weakness are present you have to do with dementia, imbecility or idiocy. In dementia we have a permanent or temporary diminution of original mental power. The patient thinks slowly and with difficulty, is easily confused, lacks memory, attention, concentration of purpose and ability to accomplish results. All degrees of dementia may exist from a simple weakening of a once vigorous mind to a complete abolition of mental action. In imbecility we have an arrest of mental development prior to adult life. Imbeciles are not properly insane persons. You may, however, have imbeciles with delusions.

In idiocy we have an arrest of mental development prior to birth, or during infancy. The diagnosis of mania and melancholia is very easily made. The same is true of monomania and general paresis, with possibly in the latter case a single source of error. In an occasional case of developed general paresis mental depression rather than mental exaltation is present, but in this rare class of cases there is almost as much extravagance in the depression as there is in cases of elation. There is, however, always present as a diagnostic mark the lessened muscular control of the victim of general paresis.

The diagnosis between profound melancholia and dementia is also very difficult, and can only be made satisfactorily upon a knowledge of the antecedent history. The rariety of these cases, however, renders the matter of little practical importance.

The prognosis of insanity is more difficult. What forms will probably terminate in death? What forms will recover? What forms will terminate in chronic dementia? What forms will assume a chronic and incurable type? These questions meet the practitioner on every side, and are frequently difficult to answer satisfactorily. Very great assistance here will be derived by separating insane conditions into what have been termed clinical groups. These take into consideration the original constitution inherited or acquired of the individual, the cause of his disease, the age at which its development occurs, and its general course. An attempt is thus made to give the natural history of a mental disease taken as an entity from its commencement to its termination. The particular manifestations of mania or melancholia or dementia do not so much concern us as the individual himself, the age at which his disease developed, its cause and usual course in persons similarly attacked. A youth suffers from insanity at puberty, and his disease is clearly related to this developmental stage of his life. His form of insanity may with great propriety be termed the insanity of pubescence, and a favorable prognosis is justified. A woman becomes insane at the climacteric, and is depressed, suicidal, irritable or apprehensive. Her insanity is denominated climacteric insanity, and the prognosis is grave because it is developed at a time when the ability of the system to resist disease is perceptibly diminished. A young man of studious habits, a retiring disposition, and an aversion to society displays an exaggerated sense of religious obligation and a tendency to the study of the scriptures, or is listless, abstracted, often irritable or possibly displays great personal vanity and an exaggerated sense of his own importance. His friends lament that he has fallen a victim to "over study," and wonder why talents so brilliant should have been associated with such a feeble body. You, however, will be justified in considering this to be the insanity of masturbation and in giving an unfavorable prognosis. A great variety of similar clinical groups with substantial grounds for their existence may be formed, which will furnish valuable assistance in prognosis. Among them may be mentioned senile insanity, ovarian insanity, neurasthenic insanity, the hereditary insanity of adolescence, traumatic insanity, alcoholic insanity, puerperal insanity, etc., etc.,—all of which point to definite causes and foreshadow more or less clearly the probable termination of the insanity. It may not be inappropriate to mention that serious errors are often made in prognosis from a failure to detect mental impariment or more properly mental enfeeblement. If this occurs subsequent to excitement or depression with a retention of some fixed delusion, it betokens an incurable condition. And yet how frequently are cases met with who have regained composure and self-control, have become perhaps unnaturally quiet and whose friends believe them to be well or nearly so because thev are only insane on one or two points. Do not in your practice send such men to an asylum, and confidently predict that a few weeks, "a month at most," will suffice to cure them. Secondary dementia indicates organic brain changes and irreparable loss of mental vigor.

Another point in connection with chronic dementia should not be lost sight of. It is frequently confounded with cerebral softening. The pathology of the two affections is entirely different. In the former you have relative decrease of the gray matter of the brain, and a relative increase of the white substance; in the latter you have a disorganization of the brain due to interference with the arterial supply.

Preliminary to the consideration of the special treatment of the varying forms of insanity it may be appropriate to inquire as to the probable condition of the brain in insanity. It was formerly customary to consider that the increased action of the brain which was noticed in insanity was due to an inflammatory process, and traces of these obsolete conceptions still linger in medical practice. Blood-letting, arterial sedatives, violent diaphoretics, drastic cathartics, calomel and the like have all been employed with the hope of arresting an inflammation which was supposed to exist within the cranial cavity. This is all changed in theory, and should be in practice. Cerebritis and encephalitis are now diagnosticated from acute mania, and the delerium which accompanies them is no longer thought to be insanity. A similar change of view should occur in the doctrine of hyperæmia, which is supposed by many to precede maniacal excitement. This comes from an erroneous interpretation of the post-mortem appearances of brain tissue in acute mania which confounds the result of maniacal excitement with its cause. The primary condition is undoubtedly one of morbid activity of brain cells—a process of irritative molecular change in the ultimate constitution of the nerve cell which antedates hyperæmia of the brain. These cell changes give rise to a rapid generation of ideas, and increased tissue waste, and as a result of this increased functional activity more blood is required in the brain and hyperæmia follows. As a convulsive seizure is due to an instability of nerve tissue, in like manner a psychical convulsion—an outbreak of excitement—is the result of an instability of the brain nerve cells. It is not an evidence of strength, but of weakness, just as an irritable heart is a feeble heart. When hyperæmia has resulted, it is probably not a general hyperæmia, but is rather confined to limited areas. In acute mania the constant repetition of certain muscular movements, often with as much regularity as in chorea, the excitation of special cerebral functions, the sharp, almost automatic outcries of the patient, the rythmical flow of words, the hallucination of sight and hearing—all in the light of the present doctrines as to cerebral localization, point to morbid processes going on at circumscribed and limited portions of the cerebral cortex, and negative the belief that all portions of the brain are equally involved in a general hyperæmic process.

The same is true of melancholia. In this disease the primary difficulty is probably in the nutrition of the brain cells, and it is generally and almost invariably associated with anæmia or some other similar morbid condition, of the blood. The bearing of this in medical practice is obvious. Remedies to pull down the heart's action, to depress the vitality, to derive from the brain, etc., are not indicated.

Insanity is essentially a disease of innutrition, and it is cured by restoring the normal condition of the ultimate nervous structure, and this can be best done by rest, quiet, nutrition, sleep, good hygienic surroundings and healthful living.

HOW TO TREAT ACUTE MANIA.

Secure peace and quiet to the unfortunate sufferer. Turn out the meddlesome neighbors, the kindly disposed but too often injudicious friends, and the curious busy-bodies of the town, who are always unduly anxious to see how an insane person will act. Don't bleed the patient, don't shave the head and apply a blister, don't blister the back of the neck, don't fancy you have cerebro-spinal meningitis and apply croton oil along the whole length of the spine, don't give large dozes of opium to produce quiet, don't mistake disordered mental action for increased mental action. By as much as you diminish your patient's strength by powerful perturbating measures, by so much you will delay your patient's recovery, or lay the foundation for future attacks.

I have known many cases where blood-letting during maniacal excitement so far interfered with the nutrition of the brain cells as to predispose them to take on diseased action forever after upon slight causes of disturbance. Many attacks of recurrent mania have owed their origin to such improper treatment. Do not make the mistake of supposing that the evidences of excitement which are present are the disease, and that by stopping the muscular agitation, the loud outcries, and the emotional disturbance you are checking the disease. The maniacal fury seems to be an effort on the part of nature to relieve the morbid activity of the brain. It is not in itself as a rule a dangerous symptom. It is a disagreeable feature of insanity, interfering with the quiet of the neighborhood and mortifying to the pride of friends. Acute mania, however, is generally a self-limited disease, and if the strength of the patient is maintained it will run its course and subside. To attack these evidences of excitement by administering powerful hypnotics is unwise. They interfere with the nutrition of the body, and fail to check the morbid cell changes of the cerebral tissue. If possible, direct the energies of the patient into some healthful channel. Instead of allowing him to dance and caper; to roll upon the ground and to behave in a disorderly manner, let an attendant or two if necessary walk the patient about until fatigue gives him a suggestion of sleep. Substitute for what is disorderly, well regulated muscular action. furnish him employment if it can be found, and prevent the formation of destructive habits. Beware of irritative control. Let the patient have comparative freedom of action within certain limits. Unless he is very feeble do not confine him to his room or to his bed. Allow him to be in the open air as much as possible, and do not be too critical as to his conduct. Sustain the strength by administering nutritious food at regular intervals. Generally enforced feeding is not necessary. Such patients, however, are frequently whimsical and notional, and it often requires much patience and tact to induce them to take food in proper amount. Of all articles of diet milk is by far the best adapted to the nutrition of a maniacal patient. It can be given as a drink, and it is almost aways possible to secure the taking of a good quantity, If you have a relapsing case of mania to deal with a single dose of hyoscyamine (the amorphous alkaloid of hyoscyamus niger) will frequently be of great service. If you desire to procure sleep at night you will frequently find a moderate dose of hyoscyamus or of chloral hydrate of service. They both, however, lose their effect rapidly, and a second administration is generally necessary to procure sleep during the whole night. If a person can occupy the room with a maniacal patient it is frequently possible to quiet his excitement by soothing words. If it is possible for the patient to secure sleep without a hypnotic it is preferable to dispense with its use. If, however, the choice must be made between prolonged and persistent wakefulness and the administration of chloral or hyoscyamus or of bromide of potash, give the hypnotic and secure rest. When the excitement of the patient has subsided, avoid taxing the feeble brain for a time. The excessive action which has accompanied the period of mania has exhausted the power of the brain and a period of quiet for repair is necessary. The patient will be more quiet than usual for a time. This is known as temporary dementia, and it is usually recovered from. One reason why cases of acute mania do not make a perfect recovery under home treatment is because the patient is usually incited by his surroundings to go to work prematurely to make up for lost time. The feeble brain is goaded to duty too soon, and changes of sentiment, perversions of feeling, peculiarities of various kinds are the result, and too often an acquired susceptibility to a renewed attack. In fact the most common cause of what is known as recurrent mania is a first uncured or imperfectly cured attack of excitement. Do not pronounce your patient well when he has become quiet and has regained his self-control. As in acute mania the emotional and affective nature suffers first and the intellectual centres yield last to the attack of disease, so in convalescence the intellectual centres are first to regain the ground which is lost, and the emotional nature subsequently. Any person who does not regain a healthy state of the emotional nature as well as of the intellectual functions, but shows perversions of sentiment, distrust of friends or peculiarities, is not of sound mind and should not be pronounced well. If a man after an apparent recovery from insanity changes his politics or his religion, or sells out and moves away to get into a better neighborhood, or from being penurious becomes generous, or shows any other change in life-long habits of thought or feeling it is doubtful whether he has made a good recovery. Can acute mania be treated outside of an asylum? It can be if there exist skilled attendants, proper apartments and efficient medical skill. It is, however, an expensive process.

THE TREATMENT OF MELANCHOLIA.

Melancholia is essentially a disease of innutrition. It should be treated from the commencement with stimulating and supporting measures. Build up the strength by good food taken regularly, and feed also between meals. In many cases there is a refusal of food, generally through suspicion of poison, or from perversion of taste. Many believe that they are eating the dead bodies of friends, or that their food is mixed with all sorts of disgusting substances. Under the circumstances the only resort is to forced alimentation. In my own experience the most feasible course is to feed through the nose. Take a Nelaton or other soft rubber catheter and attach it to the small tube of the Davidson syringe, then pass the catheter gently down the nostrils into the œsophagus, taking care not to enter the larynx. The danger of this is not great, and if it should occur the appearance of the patient will at once inform you that something is wrong. Withdraw it a little and it can readily be passed into the œsophagus. It is not at all necessary that the tube should pass into the stomach. If it enters the œsophagus a short distance it will answer every purpose. Then by means of the syringe inject milk into the stomach. If there is a disposition to regurgitate the food, firm pressure made over the region of the stomach will frequently be sufficient to control its movements and to prevent vomiting. The same apparatus also affords an excellent method for administering medicine in case a patient refuses it. When the feeding of an irresponsible person is so easily accomplished it is a reproach to our profession to read so many accounts in the current newspapers of insane persons dying of starvation in consequence of persistent refusal of food. I saw recently at the Royal Glasgow Asylum a patient who had been fed mechanically since 1876, and who is in fair bodily health. I have at the present time under treatment an insane woman who has been fed mechanically since March, 1879, and who is in about the same physical health as when she began to refuse food. In melancholia no function of the body is properly performed. There is constipation, scanty urine, a harsh dry skin, deranged secretions, etc. All these symptoms are to be relieved by proper medical attention. There is also great necessity of guarding against suicidal tendencies. The impulse to do some act of self-destruction, or of self-mutilation is well-nigh irresistible and patients suffering from melancholia should not be allowed to run any risk of accomplishing what the morbid mental impressions dictate. A word may not be inappropriate in this connection in reference to the function of menstruation. In both melancholia and mania, menstruation is generally disordered or suppressed. Many practitioners erroneously ascribe the existing mental disturbance to the derangement of this function and endeavor by emmenagogues to restore it. This course is unwise. If all other functions of the body are well performed, that is if the patient is in health—menstruation which is to be regarded as an evidence of health is usually properly performed. If menstruation is absent it is in consequence of the general derangement of all bodily functions. To stimulate the reproductive system by emmenagogues occasions a local congestion which gives rise to impure delusions. Let the function alone. When the excitement or the depression is recovered from and the nerve tone is restored, this function will be restored naturally and healthily and without danger of producing fresh delusions to be recovered from. What remedies are to be given? Tonics primarily and restoratives. If the depression is very profound, and the delusions very painful administer codeia or morphia or citrate of caffeine. It is frequently of service to combine the morphia with sulphuric ether. To procure sleep at night chloral hydrate is probably the safest and most efficient remedy. It is much better borne and much more necessary than in acute mania. Great benefit will also frequently result from hot baths, spirit frictions or dry rubbing previous to retiring. Where there is marked evidence of cerebral mania, rest at night will sometimes follow the administration of whisky and hot water. Much has been written of late in reference to the treatment of melancholia at home. I regard the effort to do so hazardous. I do not have reference alone to the danger of suicide, which should always be taken into consideration. The greater danger I conceive to be that the patient will lose mental vigor. The passage from the depression of melancholia into the impairment of dementia is frequently so imperceptible that the tendency is not recognized by friends. In well organized asylums the effort is constantly made to keep the patient interested in some form of occupation. The presence of other patients is often beneficial, and tendencies to dementia are thus arrested. Of the two, it would seem less hazardous to treat acute mania at home than melancholia as it is ordinarily met with.

THE TREATMENT OF GENERAL PARESIS.

In general paresis it is of the utmost importance that the disease should be recognized very early, much earlier if possible than when it is seen in the asylums. To this end the disorders of motility which at first seem confined to the movements of the tongue, and lips should be most carefully observed, and the patient, if possible, should have enforced quiet, nutritious food, unirritating and careful personal control, freedom from everything calculated to excite thought or to awaken emotion. The brain cells which are already involved in a low form of inflammation should have their functional activity checked as much as possible. If the earlier stages of the disease have passed and degenerative processes have commenced, metallic tonics like the oxide of zinc or chloride of barium are indicated. If there are evidences of exhaustion in consequence of too rapid tissue changes, as shown by intense excitement, sleeplessness, a foul breath and disorders of digestion, restorative remedies like Fowler's solution, alcoholics or quinine, or the salicylate of cinchonidia are frequently of great service. Iodide of potassium with ergot should be administered where there is marked ataxia—and also the continued electric current should be employed to arrest the fatty degeneration of muscles. By these and kindred measures you will frequently arrest the disease and sometimes be able to give the patient a period of comfort of several years duration. I fear very few cases of this disease will ever be cured; it is, however, your duty to do all you can to ameliorate the diseased condition present. Several cases in my own experience have shown an arrest of the disease as the result of severe bed-sores or other injuries involving extensive destruction of tissue and necessitating long continued quiet. Dr. Pieters, of Gheel, and Dr. Savage, of the Bethlehem Hospital, have reported cases where marked improvement of all the symptoms accompanied the development of huge carbuncles upon the back of the neck, and both informed me that if general paresis should develop itself in their own cases they should direct that extensive sloughs be created by some artificial means over the cervical region with the hope that thus the brain degeneration might be arrested. They declared that they had come to the conclusion that this treatment offered the best hope of arresting the disease.

Whether the benefit results from the destruction of tissue or from the enforced rest which the disability necessitates, I am unable to say. I make the above statement with the hope of being able at some future date to speak more definitely as to its utility. I would also add that I was struck while at Gheel with the comparative comfort of general paretics, and formed the impression that the great freedom from irritative control which existed there was of great service to them in the latter and confirmed stages of this disease. I would suggest that if you have the care of such a patient you endeavor if practicable to give him the largest amount of liberty. Take him away from his business and arrange it so that he cannot make foolish purchases, or run in debt, or make love to his female acquaintances, and then keep him constantly in the open air, and permit him to move about as his truant fancy dictates.

The different forms of epilepsy are frequently accompanied by mental derangement, but the forms of disease which are manifest are easily classified under the same heads. You may have mania after epilepsy, dementia after epilepsy, etc.

When insanity is developed in the case of an epileptic the prospect of being able to cure the epilepsy is very small. You will frequently relieve the mental symptoms, but no permanent improvement is to be anticipated. I regard it very important that epilepsy be more carefully studied in its relation to insanity. In many instances the tendency to dementia after convulsive seizures is very rapid. In others patients suffer from epilepsy for a score of years and display no marked diminution of mental vigor. In some instances I have thought this rapid dementia to be due to the indiscriminate and wholesale administration of the various bromides. They undoubtedly arrest the tendency to convulsive seizures. In some instances, however, they give rise to hebetude of mind and extreme muscular weakness; in others to a state of furious excitement. In this connection a word of caution seems appropriate respecting the administration of hypnotics. In ordinary disease no remedy is of such universal application or utility as opium. It relieves pain, procures sleep, subdues inflammation, checks tissue waste and restores the exhausted energies. When called to a sleepless excited patient one is intuitively inclined to administer the same potent remedy and to persevere in its use until sleep is procured. It is, however, an injurious remedy, and should not be used in acute mania. Its tendency is to increase the cerebral circulation, to occasion a rapid generation of ideas and to augment existing excitement. If the brain is finally overpowered by it the sleep procured is unrefreshing, and the patient awakes to repeat his former acts of violence. The best sleep producers in insanity are unquestionably the fluid extract or tincture of hyoscyamus and chloral hydrate. Of the former a dose somewhat in excess of the amount stated in the works on materia medica may be given with safety. Of the latter a dose of fifteen or twenty grains will frequently be all that is needed.

An excellent combination where patients are persistently noisy is of hyoscyamine and chloral hydrate. A very efficient remedy also in cases of recurrent mania is found in hyoscyamine. In some instances a dose of one-twentieth of a grain administered at bed-time is sufficient to arrest an impending period of excitement. On several occasions I have in this manner succeeded in arresting severe paroxysms. As a rule hypnotics are not advisable by day and are not as absolutely required at night as many have supposed. Nothing is so easy to form as a habit of taking chloral-hydrate or some other sleep-producer. Do not tell your patients or their friends what form of hypnotic you are administering. Patients frequently prescribe such remedies for themselves and take them continuously long after the necessity for their use is past. It would be much better if physicians generally formed the habit of dispensing such drugs themselves, and never permitted their patients to procure them on written prescriptions to be renewed *ad libitum*. Avoid establishing the chloral or other habits as much as possible. Frequently a hot bath, a spirit friction, a moderate dose of valerianate of ammonia, or of some other equally harmless drug will be sufficient to procure sleep. Enforced sleep by hypnotics is better than no sleep; but quiet natural sleep without medicine is the best of all for an excited patient. An additional word of caution is also appropriate in reference to the bromide of potassium. Since its introduction to the profession it has frequently been my fortune to see it administered in a routine manner as *good for insanity*. Patients who are depressed physically, wakeful, restless, under the influence of delusions of apprehension are often dosed with these remedies under the vague idea that by this means the tendency to cerebral congestion will be relieved. Although the immediate effect of the remedy may have been soothing the ultimate result of its administration has been deplorable. I have observed in many instances a marked spanæmic effect from its administration. The patients also display a listlessness and apathy, a muscular weakness, thickness of articulation and hebetude of mental action which is suggestive of impending paralysis. In several instances the so-called "echo" symptom has been thus developed. The patient has been unable to speak or even to write from dictation, or to copy what another has written without repeating certain words. A single case may serve to illustrate my meaning. A young man of fine physique and excellent natural ability became much depressed in consequence of a severe affliction, and to forget his grief, devoted himself with great assiduity to business, working frequently until midnight at his desk. He soon began to suffer from sleeplessness, and finally developed active delusions of distrust and apprehension. While under the influence of these delusions he attempted suicide. As he was incoherent in conversation, and had marked periods of excitement, during which his irregular and disordered mental action was mistaken for excessive mental activity, large doses of bromide of potasium were administered with the hope of decreasing it. When he came under treatment he displayed to a marked degree the so-called "echo symptom," and in ordinary conversation repeated every third or fourth word. When asked to copy from a newspaper the sentence: "Tea roses are more beautiful and possess a more delicious odor than any of the tribe," he wrote: "Tea roses are more beautiful more beautiful and possess and possess a more delicious odor delicious odor than any of the the tribe." In another instance when a telegrapher had taken large doses of bromide of potassium for epilepsy he noticed that he constantly repeated words in taking dispatches and reducing them to writing, and although constantly detecting his errors, was unable to overcome the tendency until he ceased to take the drug. In epilepsy it sometimes proves of service in checking the convulsive seizure, but gives rise to active maniacal excitement. In fact there are many epileptics who do not bear the remedy well. Some have asked whether the bromides are ever serviceable. Unquestionably they are valuable remedies in epilepsy, in acute mania accompanied by great sexual excitement, in ovarian irritation, and in the headaches of menstruation. They are not, however, of universal application, and should not be given indiscriminately.

How shall medicine be administered to an insane person? It is often difficult in consequence of active delusions to administer it by the mouth. Under such circumstances it is comparatively easy to administer it by means of the nasal tube. If this is impracticable for any reason the hypodermic syringe can be used. Hypnotics, like chloral, are readily administered by enema. These methods are all preferable to the old method of prying open the mouth and forcing the medicine down by holding the nose.

Very much can be done by what are known as moral measures. It is useless to argue with an insane patient in reference to his delusions. No matter how clearly you demonstrate to him that he is in error, he is still of the same opinion, because his conviction of their truth is intuitive, and is not based upon ordinary evidence. He knows and believes what he knows in spite of all arguments to the contrary however plausible. The true method of disposing of delusions is to divert the patient from them by presenting healthful topics of thought. Get him interested in a healthful occupation, and the delusion is lost sight of. When it is fading away the patient will frequently be benefitted by conversations and the presentation of arguments, which will assist him to overcome his delusions. The process, however, must be one which is self-directed, and the physician like every true physician must content himself with assisting nature to do the work. Always be truthful with the insane. Parry their questions when you think it desirable, fail to heed them when you deem any discussion unwise, but if compelled to speak, always speak truthfully. Do not fancy that your falsehood will be forgotten by your insane patient. He will remember it much longer than he will any kindness you ever do him. If you would retain his esteem and confidence do not swerve from the strictest truth in your relations with him. In this same connection I would warn you against any attempt to relieve patients of delusions by deception. I remember an account given by an elderly physician of his success in relieving a patient of a delusion that he had a snake in his stomach by administering a brisk emetic and stealthily introducing a live snake into the ejecta. The patient was convinced for a few moments, but when the old sensation upon which the delusion was based returned to the stomach, the delusion returned with it. Tricks of this character are more futile with the insane than with patients of sound mind. Find employment for the patient, and make as few points with him as possible upon non-essential matters. A hundred years since it was customary to endeavor at the outset to break the patient's will. The process was analagous to that employed in breaking young horses, and it was supposed a necessary prerequisite to successful treatment. There does not need to be any great display of authority with an insane man. Decide what is necessary to be done, and then do it.

There is no doubt but that insanity is increasing, and that the problems which grow out of it are in the near future to present many difficulties in solution. It is also undeniable that insanity is not as curable a disease as was formerly supposed, when cases of acute mania alone were sent to asylums. New forms of incurable disease are developing constantly, and the type of mental disease is changing. We are now receiving in asylums more cases of melancholia than of mania, and tenfold as many cases of general paresis as we did a dozen years ago. All this points to increasing degeneration of the race and a corresponding increase of public burdens. It therefore becomes the duty of medical men to disseminate more correct views respecting the prevention of insanity. Heredity plays a most important part in the production of mental disease. The vast majority of insane persons inherit a susceptibility to insanity from some ancestor. This susceptibility under favorable surroundings may not become fully developed, but on the other hand if the unfortunate heir of his parent's misfortunes becomes exposed to unusual fatigues or anxieties the latent capacity of the individual for the development of insanity is manifest. The wear and tear of city life in many cases is sufficient to exhaust the feeble nerve cells and insanity results. It is not until the marriage of all persons tainted with insanity can be prohibited that we may hope to arrest mental disease. Give these matters careful thought, and when called upon as medical men to give advice which may affect the welfare of unborn children be conscientous and fearless.

A CASE OF POISONING BY CHINESE DRUGS.

BY MARY HOLBROOK, M. D., PEKIN, CHINA.

A man about thirty-five years of age, presented himself, stating that he had had a boil on his arm, and one hundred days previous had taken Chinese medicine, which had poisoned him.

No history of any disease beyond a simple boil could be obtained and this was entirely healed. General anasarca was extreme. His skin was livid and had a leathery feel. There was no pitting on pressure. His gait was unsteady and shuffling. His whole body was tremulous and speech, though intelligent, was stammering and voice husky. He complained of severe headache, general rather than localized, and had frequent attacks of coma, every day growing more severe. Temperature normal; pulse 80, slightly irregular and weak, and compressible. The pupils were contracted and sight very much impaired.

The tongue was much swollen and covered with a thick brown coat, but there was no line upon the gums, nor had they been at any time sore.

At first he had severe attacks of hæmoptysis, total loss of appetite, stinging, burning pain in stomach, bloody stools and retention of the urine.

At the time he presented himself these symptoms had in a great measure disappeared.

There was no tenderness on pressure over the spinal column, and general anæsthesia was very marked. Urine scanty and high colored (no analysis made).

I was unable to diagnose the poison taken and giving him an iron tonic and general eliminative treatment, he returned home, promising to send the prescription of medicine taken, which I received after a few days delay.

The first prescription called for metallic mercury and calomel (quantity not stated), also one centipede and one scorpion. The second called for one hundred and forty-four grains (about) of tobacco pulverized, a like quantity of nitrate of potassium, ninety-six grains each of alum, and tea root pulverized.

All this was taken at a single dose. My medicines had not then arrived from America, so there was no choice but to continue the treatment I had begun.

Much to my surprise the patient grew better and is now nearly well, being able to do his usual work, carrying immense burdens.

This is but one of many instances illustrating the stupidity of Chinese doctors and the wonderful power the native exhibits in combatting disease.

ARSENIC IN WALL PAPER. (CONTINUED FROM PAGE 384).

BY A. A. JONES, PH. C., GRAND RAPIDS, MICHIGAN.

It is claimed by some that on a warm wet day AsH_3 is generated and the gas inhaled, but this is doubtful.

Both German and American chemists have found large amounts of arsenic behind beds and furniture in sleeping rooms. This proves how easily arsenic may be detatched from the wall. In making my qualitative tests, I used sodium amalgam, prepared by rubbing together metalic mercury and sodium with the later in excess. Place a small piece of paper in a large test tube about one-half full of water and make slightly alkaline with NaOH. Put in a small piece of amalgam, and cover the top of the test tube with $AgNO_3$ paper. If arsenic is present the amalgam will generate AsH_3, and the paper will be blackened.

In my quantitative estimation, I took a known amount of paper and dissolved out the coloring matter with dilute HCl, and made alkaline with KOH, and warmed. The KOH throws down the copper and any thing precipitated by KOH. I passed in a little Cl to favor the action. After filtering I made it slightly acid with HCl, and passed in H_2S gas until the arsenic was all thrown down as a sulphide. After washing thoroughly I dissolved in NH_4OH to separate from any free sulphur and evaporated to dryness on the water bath. Now dissolved the residue with ten per cent. HNO_3 and evaporated to dryness, first on water bath and then on sand bath, using NH_4NO_3 towards the last to help destroy any organic matter. This leaves As_2O_5, and is weighed as such.

The manufactures of wall paper claim they do not use any arsenic at all. I am satisfied through my results that they use but little, if any. In all save the three in which large amounts were found, the arsenic was due to the use of aniline containing arsenic.

THE PHARMACOPŒAL NITRIC ACID AS FOUND IN SHOPS.

BY J. E. MORRIS, PH. C., BLUFFTON, OHIO.

I examined nine specimens of nitric acid, as obtained at the drug stores, and the results wére most satisfactory. Three out of the nine contained traces of oxide of nitrogen and hydrochloric acid. Two contained traces of iron, and one a trace of organic matter. The lowest specific gravity was 1.377, and the highest, 1.413.

EXAMINATION OF GROUND COFFEE AS FOUND IN SHOPS.

BY S. CROMBIE, PH. C., YPSILANTI, MICHIGAN.

The first sample examined was taken from a pound package of Java coffee, put up by the Centennial Coffee Company, of New York, one out of a certain number of these packages being represented to contain a silver spoon. It was found to be composed almost entirely of foreign elements, many of the specimens failing to reveal any coffee at all.

The foreign substances present were chicory in large proportions, peas, wheat, acorns, corn and an indeterminate coloring matter. The chicory was detected by the regular parallel pitted vessels at right angles to the parallel markings lengthwise of the cell.

The wheat was distinguished by the globular form of the starch void of nucleus.

Characteristic of pea starch are its kidney shape, the markings parallel with the cell wall, and the nucleus somewhat thickened and extending nearly the whole length of the cell. Acorns were easily detected by being larger than the other starches, having the cell wall somewhat roughened, rather thick and the nucleus somewhat star-shaped.

The corn present in the first specimen was angular in shape, resembling pieces of resin.

It had been colored, but upon being powdered and soaked in water, the stellate nucleus, with two rays and the half rounded, half angular outline of corn, were easily detected.

The second was a sample of Gillie's Gold Medal Java coffee, in every sixty pound box of which a bronze clock and mirror were given away. It contained but very little coffee and was composed of wheat in great quantities, much of it unground, chicory, corn and peas.

The remaining samples examined were ground coffee, sold in bulk, purchased by the grocers as ground coffee, and in every case adulterations were found.

In the third were found peas, corn, acorns and chicory.

The fourth, represented as a mixture of Java and Mocha coffee, was found to be nearly pure, the only impurity being wheat in small quantities.

In the fifth and sixth peas and chicory were present; in the seventh chicory, peas and wheat, and in the eighth peas and wheat.

Inquiry was made and in every case investigation showed that there is but very little sale for coffee in any other form than in the unground berry, it being very generally recognized that coffee put upon the market in packages or in the ground form is almost certain to contain adulterations, and the fact that only eight of over thirty stores visited keep it on sale is evidence that there is very little demand for it.

From the above we see that chicory is used very extensively, being found in six out of the eight samples, and peas in all but one. Wheat is the next common adulteration, corn and acorns being the least common.

CREAM OF TARTAR: PURITY AND ESTIMATION OF CALCIUM SALT.

BY E. B. LONGWELL, PH. C., PAW PAW, MICHIGAN.

Cream of tartar, or the acid tartrate of potassium, is contained in many acidulous fruits, but is collected altogether from the juice of the grape, in which it becomes insoluble after fermentation, and is deposited in the casks in crystalline crusts. This is the crude tartar, or argol, and consists of potassium bitartrate and calcium tartrate.

The crude tartar contains between five and fifteen per cent. of calcium tartrate. It is purified by boiling in water, filtering through animal charcoal, and crystalizing until the required purity is obtained. By careful management the calcium can be reduced to three per cent.

Potassium acid tartrate contains no water of crystalization, and each molecule contains one atom of potassium.

In this analysis I made three estimations, namely, percentage of impurity, percentage of calcium tartrate, and percentage of potassium acid tartrate.

In the estimation of impurity the United States Pharmacopœia states that when bitartrate of potassium is treated with a hot solution of potassium hydrate, whatever remains undissolved is impurity. In this way only the coarser adulterations can be detected. Cream of tartar is adultered with gypsum, chalk, alum, and even stale bread.* These substances are best detected by treating the powder with an excess of ammonia, wherein it should be completely soluble, and the solution should give no precipitate with hydrosulphuric acid (copper, iron,) nor with oxalate of ammonia (calcium).

The residue from ammonia solution is tested as follows: On the addition of iodine if starch is present it will acquire a blue color. On the addition of an acid if chalk ($CaCO_3$) be present it will effervesce. The residue dissolved in acid should give no precipitate with ferric chloride (phosphates) nor with ammonia (alumina).

†"One hundred and eighty-eight grains of potassium acid tartrate when heated to redness till gas ceases to evolve leaves an alkaline residue which requires for neutralization one thousand grain measures of the volumetric solution of oxalic acid." This test proves the absence of all impurity.

The percentage of calcium tartrate was estimated by the following method, taken from Fresenius, page 171: Treat the powder with dilute HCl acid, to the hot solution in a beaker add oxalate of ammonia in moderate excess, and then ammonia sufficient to impart an ammoniacal smell to the fluid, cover the beaker and let it stand in a warm place until the precipitate completely subsides, which requires twelve hours, at least, pour off the clear liquid gently, and wash the precipitate three or four times with water, transfer the precipitate to the filter, wash again, dry, ignite, filter, and transfer to a platinum crucible, heat gently at first and increase until the bottom of crucible is heated to a very faint redness. Cool in a desiccator, and weigh. Now mix with dry ammonia carbonate and heat just enough to drive off NH_3, repeat this operation to constant weight. Result. is calcium carbonate.

Potassium acid tartrate was estimated volumetrically with a decinormal solution of sodium hydrate, the $KHC_4H_4O_6$, acting as a monobasic acid.

Of the samples analyzed five were obtained from drug stores, and were comparatively pure, while six were obtained from grocery stores, and four out the six contained a large percentage of calcium carbonate (chalk).

Chalk and terra alba were the only adulterations found.

The purest sample analyzed was obtained from one of the

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*Stille and Maisch.

†Stille and Maisch.

Detroit jobbers, and sold under the name of "French crystals," it contained less than one per cent. of terra alba, and 5.4 per cent. of calcium tartrate.

The percentage of terra alba found varied from about 1 per cent. to 8.3 per cent.

Chalk found in four samples varied from 49 per cent. to 63 per cent.

Calcium tartrate varied from 5.4 per cent. to 7.8 per cent.

	Silicious Matter.	Calcium Tartrate.	$KHC_4H_4O_6$.	Calcium Carbonate. (Chalk).	Total.
1	6.62 per ct.	5.9 per ct.	87.47 per ct.	....	99.9 per ct.
2	3.07 per ct.	5.8 per ct.	92.21 per ct.	....	100.09 per ct.
3	1.82 per ct.	6.15 per ct.	92.23 per ct.	....	100.20 per ct.
4	.99 per ct.	5.4 per ct.	93.7 per ct.	....	100.09 per ct.
5	1.66 per ct.	7.8 per ct.	90.4 per ct.	....	99.86 per ct.
6	1.61 per ct.	6. per ct.	92.34 per ct.	....	99.95 per ct.
7	2.9 per ct.	5.32 per ct.	91.8 per ct.	....	100.02 per ct.
8	8.3 per ct.	2.48 per ct.	27.35 per ct.	62.5 per ct.	100.63 per ct.
9	6.1 per ct.	3.2 per ct.	41.1 per ct.	49.5 per ct.	99.9 per ct.
10	7.4 per ct.	2.23 per ct.	26.9 per ct.	63.4 per ct.	99.83 per ct.
11	5.4 per ct.	4.2 per ct.	32.5 per ct.	57.7 per ct.	99.80 per ct.

Of the six samples obtained from grocery stores, the four that contained clalk were sold at wholesale at from eighteen to twenty-two cents per pound, and at retail at forty cents per pound. The other two were free from chalk, and were retailed at sixty cents per pound, costing at wholesale about forty cents.

THE PURITY OF THE "CHEMICALLY PURE" SULPHURIC ACID OF THE SHOPS.

BY E. J. KENNEDY, PH. C., COMMERCE, MICHIGAN.

I examined twelve samples of the "chemically pure" sulphuric acid of the shops, with the following general results:

The lowest specific gravity was 1.76, and the highest, 1.839. One sample contained a large amount of the oxide of nitrogen, and two others traces of the same. One contained a large amount of sulphate of lead, and five others traces of lead. Two contained traces of arsenic, and one a trace of iron. A large amount of organic matter was found in one, and traces in four others; while traces of sulphurous acid were found in two.

These results show that the "chemically pure" sulphuric acid of the shops cannot be relied upon as a reagent. It does not, however, contain any impurity in quantity sufficient to interfere with its medicinal use.

SOURCE AND PURITY OF BENZOIC ACID.

BY T. R. THORNBURGH, PH. C., HAGERSTOWN, INDIANA.

[IN ABSTRACT.]

Benzoic acid, in large amount, is now obtained from the urine of the horse. Reservoirs for collecting and preserving the urine are built in large stables. The urine is concentrated and extracted with alcohol, which removes the hippuric acid. The alcohol is removed by distillation, and the hippuric acid is boiled with hydrochloric acid, converting the hippuric into benzoic acid and glycocoll. Upon cooling the benzoic acid is deposited in a crystalline mass and the supernatant fluid is removed by decantation. The acid is purified by sublimation. If the acid is carefully prepared, it will be free from the odor of urine. Benzoic acid is also prepared from gum benzoin, by sublimation. The most common impurity in benzoic acid from this source is cinnamic acid.

Other impurities are hippuric acid (in that from the urine), volatile oils, sugar, chalk, gypsum and sal ammoniac.

I made analyses of a number of specimens, with the following general results:

Number 1.—Prepared by Schuchardt; contained cinnamic acid, but free from other impurities.

Number 2.—Prepared by Merck; the only impurity was cinnamic acid.

Number 3.—Same as Number 2.

Number 4.—A sample of Merck's prepared from urine. A distinctly urinous odor was obtained by heating it in a closed flask.

Number 5.—Obtained from an Ann Arbor drug store; contained considerable cinnamic acid.

Number 6.—Contained a large amount of cinnamic acid.

Number 7.—Was a very poor acid, having a distinct odor of bitter almond oil, and containing traces of sugar, and a large amount of cinnamic acid.

Numbers 8, 9 *and* 10.—Contained no other impurity than cinnamic acid, and that in slight amount.

Number 11.—Was similar to Number 7. The last five specimens were obtained from various Detroit druggists.

SULPHUR IN ORGANIC COMBINATION IN THE URINE.

BY E. I. STINSON, PH. C., EAST SAGINAW, MICHIGAN.

I undertook to determine the amount of sulphur in organic combination in the urine, both in health and in disease. The inorganic sulphates were first estimated by precipitation with barium chloride, drying and weighing. Then the organic matter of a certain portion of urine was oxidized with chlorine and the sulphates again estimated. The difference represents the sulphur in organic combination. I first estimated the amount of sulphur in organic combination in ten samples of normal urine. The figures show the amount of organic sulphur in two hundred cubic centimeters of the urine.

SAMPLE.	Weight of Sulphur Existing in Organic Combination.
1	.005 gram.
2	.004 gram.
3	.0013 gram.
4	.0039 gram.
5	.0039 gram.
6	.0036 gram.
7	.0017 gram.
8	.0030 gram.
9	.0022 gram.
10	.0027 gram.
Average	.0031 gram.

I next estimated the sulphur in ten samples from a case of cancer of the liver with the following results:

SAMPLE.	Sulphur in Organic Combination in 200 c. c. of Urine.
1	.158 gram.
2	.231 gram.
3	.221 gram.
4	.200 gram.
5	.209 gram.
6	.170 gram.
7	.170 gram.
8	.171 gram.
9	.222 gram.
10	.200 gram.
Average	.195 gram.

It will thus be seen that the amount of sulphur in organic combination in the urine is greatly increased in cancer of the liver. I hope at some future time to investigate this question in other diseases.

IMPURITIES FOUND IN THE "CHEMICALLY PURE" HYDROCHLORIC ACID OF THE SHOPS.

BY JOHN H. BROCKMEIER, PH. C., BAILEYVILLE, ILLINOIS.

[IN ABSTRACT.]

I examined twelve samples of the "chemically pure" hydrochloric acid, as obtained from various drug stores. The results show that the acid does not contain sufficient impurity to interfere with its medicinal use, but it could not be relied upon as a chemical reagent. The impurities found were present only in traces, and were as follows: Arsenic in one, sulphuric acid in two, free chlorine in two, lead in one, and iron in one. Of the other impurities said to be present at times, the following were tested for and found to be absent: Iodine, bromine, hydriodic acid, hydrobromic acid, sulphurous acid, nitric acid and organic matter.

ANALYSIS OF CONDENSED MILK.

BY O. G. ZERSE, PH. C., FRANCISCO, MICHIGAN.
[IN ABSTRACT.]

I made two analyses each of the three brands of condensed milk now found in the market, with the following results:

"ANGLO-SWISS," PREPARED IN ENGLAND.

	NUMBER ONE.	NUMBER TWO.
Water	25.13 per cent	24.99 per cent.
Lactose	12.19 per cent	12.99 per cent.
Sucrose	41.65 per cent	40.87 per cent.
Fat	8.51 per cent	9.02 per cent.
Casein	10.62 per cent	10.23 per cent.
Ash	1.87 per cent	1.93 per cent.

"ANCHOR," PREPARED IN CHICAGO.

	NUMBER ONE.	NUMBER TWO.
Water	26.19 per cent	25.98 per cent.
Lactose	14.73 per cent	13.69 per cent.
Sucrose	39.54 per cent	40.13 per cent.
Fat	6.94 per cent	7.20 per cent.
Casein	10.68 per cent	10.22 per cent.
Ash	2.23 per cent	2.74 per cent.

"SWISS," PREPARED IN SWITZERLAND.

	NUMBER ONE.	NUMBER TWO.
Water	22.67 per cent	22.19 per cent.
Lactose	13.24 per cent	12.97 per cent.
Sucrose	44.29 per cent	43.85 per cent.
Fat	9.93 per cent	10.05 per cent.
Casein	9.96 per cent	8.98 per cent.
Ash	1.88 per cent	1.98 per cent.

MEDICAL NEWS.

NOTHNAGEL, of Jena, has been appointed to the Chair of Medicine at Vienna, as successor to the famous Ducheek.

THE *London Lancet* has been sued by the city of Brighton for calling attention to the unsanitary condition of that watering place.

PROFESSOR BIGELOW, of Boston, has been awarded a prize of six thousand francs for his work on the treatment of urethral stricture by dilatation.

DR. EDIS (*British Medical Journal*) points out the fact that miscarriage is often due to a latent gonorrhœa, chronic endometritis and ovaritis resulting.

MR. COCKSEDGE (*Lancet*) treated an alarming case of uræmic convulsions successfully by the administration of chloroform by inhalation and salicylate of soda by mouth.

Professor Da Luz, the most renowned of Portugese surgeons, died July 13. He was professor of surgery at the University of Lisbon and founder of the Lisbon medical journal.

We are glad to learn that Dr. Morse K. Taylor, formerly assistant surgeon of United States army, has been promoted to surgeon with the rank of major. Dr. Taylor is now stationed at Detroit.

Dr. Moore (*Lancet*), delivered a female monster, with two heads and necks, one trunk and two upper and lower extremities. One head had to be removed before delivery could be accomplished.

Professor F. M. Balfour, of Cambridge, England, was killed recently by a fall in the Alps. Although only thirty years of age, Professor Balfour was one of the most eminent morphologists and was the author of the best text-book on embryology in the English language.

Dr. Wallace Taylor of the class of 1870, University of Michigan, reports in a private letter to Professor Prescott the outbreak of cholera again in Japan. Dr. T. believes that cholera is endemic in Japan as it is in South China. Dr. T. practices at Osaka, Japan.

Dr. Tomkins, of Richmond, reports the case of a negro who recently died of phthisis, and whose brain weighed seventy ounces. He was thirty-two years old, had committed two murders and had been twice committed to an insane asylum. When sane he was considered stupid.—*Medical Record.*

Dr. Currie (*Lancet*) recommends the combined action of morphia and chloroform in producing narcosis. He injects hypodermically a full dose of morphia about ten minutes before administering the chloroform. He has never seen a patient threatened with asphyxia when this plan had been followed.

The Dr. Joy matter in the University of Michigan has been settled, as it should have been, months ago, by the dismissal of Dr. Joy. Either through ignorance or intentionally, we presume the former, Dr. Joy placed himself and, to a certain extent, his colleagues into the hands of unscrupulous quacks; and it was only right that Dr. Joy should suffer for his ignorance or his guilt.

Professor Langenbeck having resigned the chair of surgery in Berlin, it was offered to Billroth, but the latter refused to leave Vienna. Professor Bergman of Würzburg has finally been secured for the position. Great joy over the refusal of Billroth to leave Vienna has been expressed by the students and citizens of that place. Professor Volkmann of Halle, also refused the offer of Langenbeck's chair.

DR. WILBE (*British Medical Journal*) reports a case of poisoning by carbolic acid. A housemaid, aged fourteen, took about six drachms of the undiluted acid. She was seen by the physician within twenty minutes, when she was breathing stertorously; her face was livid, as if she had taken an overdose of chloral; her pulse, small and irregular; she was quite comatose, and the pupils contracted, but not so small as in opium poisoning. From this it seems that lethal doses of carbolic acid are powerfully narcotic. By washing out the stomach thoroughly first with soap and water, and then with milk and water, life was preserved.

DRS. RINGER AND SAINSBURY (*British Medical Journal*), have been experimenting with a view to ascertain the relative effects of potassium, sodium and ammoium salts upon the hearts of frogs. In point of poisonous action their conclusions are: "(1) Potassium salts most poisonous, both excitability and contractability being powerfully affected; (2) Ammonium salts, excitability being practically unaffected, contractability powerfully affected; (3) Then (a wide gap separating) sodium salts, excitability being slightly affected, but contractability suffering chiefly." These experiments suggest the advisability of the substitution of the iodides and bromides of sodium for the corresponding salts of potassium and ammonium.

MR. HORMAZDJI (*Lancet*), draws the following conclusions concerning the nature and treatment of acute tonsillar inflammations:

(1) That, of all causes, exposure to cold or damp is the most frequent and the sole cause of all cases which are followed by rheumatic fever. In these cases, salicylate of soda acts almost, if not quite, as a specific. Given internally, with gargles of salicylic acid, I believe it to be of the utmost value, as I have yet to find a case, so treated, followed by rheumatic fever. I also believe that, as this treatment gains ground, cases of chronic tonsillitis will become rarer—I mean those which follow acute attacks. I always commence by giving a purgative, a pill of calomel and colocynth for adults, and a powder composed of rhubarb and calomel, or grey powder, followed by castor oil in the morning, for children Then I give twenty grains of salicylate of soda every four hours, and a gargle of ten grains of salicylic acid with two drachms of glycerine to the ounce, to be used very frequently. I find, generally, that the pain has nearly disappeared next morning, and the patients

can swallow more easily, and are less constitutionally disturbed; suppuration of a tonsil is no longer feared. In fifty-seven cases of acute tonsillitis caused by exposure to cold, and all treated by the manner above mentioned, I met with no case of even threatened suppuration. The remedy should be given regularly till all pain disappears, and then the dose should be ten grains every four hours for at least five or six days. Then, I think, neither chronic tonsillitis nor acute rheumatism need be feared. In very severe cases great relief is given by sprinkling some salicylate of soda over a hot linseed poultice, and applying it to the throat. Also by crushing ice in a long flannel bag and applying that around the neck. The gargle also gives great relief from pain. I have not found that the drug will check suppuration when once it has set in.

(2) That acute tonsillitis is much less frequently caused by the emanations from defective drains and sewers than is the chronic variety I have described. Still cases do indubitably occur for which the only discoverable cause is defective drainage, and consequently we, in these cases, find that more than one member of the family suffers. When so caused the disease runs a fair chance of becoming chronic, and is not, in my experience, benefitted by the salicylates.

(3) That when scarlet fever is accompanied by acute tonsillitis, the salicylates are extremely useful when administered internally. A gargle of salicylic acid made up with rose-water and iced often relieves the pain very rapidly, and is very grateful to the patient. I believe it to act to some extent by virtue of its antiseptic power, all the cases in which I gave it being of a mild type, if given early. I had no fatal case since ordering it.

(4) That in erysipelatous tonsillitis we might expect to find some benefit following the use of the salicylates. In two severe cases of the genuine disease I believe some benefit was derived from the drug.

(5) That in cases of the disease caused by belladonna poisoning no good has resulted from the exhibition of the salicylates. In the two cases in which I gave it no benefit was derived; and in one case the inflammation was so severe as to cause suppuration of the tonsils, both being affected.

CORRESPONDENCE.

"COMPOUND OXYGEN."

EDITOR OF THE PHYSICIAN AND SURGEON: The analyses of nostrums entitled "Compound Orygen," reported on page 245 of the June number of this journal, and republished here and there in the newspapers and religious press, have called forth a large number of letters from purchasers of "compound oxygen" mixtures. It appears that this is a favorite name for nostrums at present, and that "compound oxygen" is sent out by numerous parties, east and west. Dr. Kellogg, of Battle Creek, who has published exposures of these pretentious placebos, mentions having elicited a large correspondence on the subject. So far, no one reports to me having found any benefit from using any of them. In answer to many inquiries, I will state that numbers one and two of the articles reported, namely: "Compound Oxygen; keep dark," and "Compound Oxygen; keep cool," were given to me by responsible hands as articles issued by Messrs. Starkey and Palen.

ALBERT B. PRESCOTT.

TRANSLATIONS.

Translations from Russian Journals for THE PHYSICIAN AND SURGEON.
BY RALPH D'ARY, M. D., ROMEO, MICHIGAN.

INTRA-OSSEOUS PRESSURE AND TREPHINING.

BY PROFESSOR S. P. KOLOMNIN.

In 1873 I observed in the University Hospital of Saint Vladimir a patient affected with caries of the petrous portion of the temporal bone, who had for sometime suffered from headaches and finally died with symptoms of meningitis.

The autopsy revealed a carious nidus in the mastoid process which had reached the dura mater by a very narrow and sanious canal. Some time afterwards I saw another patient, dying of the same affection, who for a long time had had a purulent discharge from the ear. Still later I had two cases in my private practice. Both were affected with caries of the mastoid process and suffered intolerable headache. I resolved to trephine the mastoid process. I did not strike the carious focus, but both patients experienced very great relief from the operation. Their further history is unknown to me. Evidently the trephining had acted as a revulsive, similarly to the effect of the actual cautery. But this explanation did not entirely satisfy me, and after making the experiments presently to be described, I came to the conclusion that the relief was chiefly due to a lessening of intra-osseous pressure, caused by the trephine.

The import of this pressure is best seen in the long bones. The marrow, like every other tissue, containing a dense network of vessels, must increase in bulk under various normal conditions, and still more so under pathological conditions, such as hyperæmia, plastic infiltration, serous exudation, formation of pus, etc. Yet this enlargement can only be very limited, because of the unyielding bony wall, and the causes continuing to act, the marrow must pass into a condition of compression or tension, and must therefore exert considerable pressure on the vessels within the bony canal. In most anatomical regions mortification follows tension or compression of the inflamed focus, yet we do not often meet with mortification of the marrow. But this circumstance is not to be taken as evidence that the intra-osseous pressure is subject to but very insignificant variations. On the contrary, experience shows that it changes within very wide limits, without compressing the vessels of the marrow and producing mortification. The explanation of this fact is found in the circumstance that the marrow communicates with the periosteum and the joints by means of a system of canals traversing the outer compact tissue of the diaphyses, the epiphyses, and perhaps the cartilage (as some late researches on the cartilage tissue seem to render probable.) These various canals which open on the surface of the bone, under the periosteum, are the following: (1) The primary canaliculi of the bone, (2) the Haversian canals, (3) the canals on the ends of the bones, principally for the veins, and (4) the so-called nutrient canals, through which pass the large vessels of the bone. Because of this extensive system of canals in the external layer of the long bones, the intra-osseous pressure may increase largely and react on the inner walls of the medullary canal and the cancellous tissue, but on the other hand the medullary vascular system is to a great extent preserved from excessive compression during the state of tension of the marrow. The same system of canals establishes also a close connection of the marrow with the periosteum and the articulations, and in case of myelitis is instrumental in communicating pathological processes to the periosteum and the articulations, whether by hyperæmia, or transmission of serous exudates or other phagogenetic products.

The following experiment is very instructive, showing, though in a coarse manner, the import of the system of canals in the compact tissue. I quote Dr. Andreæ in *Archiv der Heilkunde:*

He took two tibiæ, warmed them in water to 30° R., sawed off the upper epiphyses, and removed the periosteum from the lower part of the diaphysis over a space equal to a silver dollar. Then he introduced into the medullary canal a rod that loosely fitted it. When the rod was pushed down quickly, and with great force, the marrow flowed in a stream from the Haversian apertures; when the rod was pushed in slowly, the marrow trickled out in drops.

I have considerably improved on this method and the experiment always succeeds. * * * * * *

Since 1873, I have more closely investigated this subject, and will now make a few general surgical remarks upon it:

(1) The cyclical course of diffuse and circumscribed spontaneous purulent inflammation of the bone marrow (osteomyelitis spontanea purulenta diffusa et circumscripta) can best be explained by intra-osseous pressure. It is strange that this condition has escaped the attention of such classical writers on the subject as Demme, Chassaignac and others.

(2) In my opinion it is convenient for clinical teaching to make the following three divisions: (*a*) Periostitis specifica, (syphilis, scorbutus, etc.) (*b*) periostitis essentialis, spontanea et traumatica, (*c*) periostitis osteomyelitica (from intra-osseous pressure).

(3) Intra-osseous pressure has very great influence in granular and purulent inflammations of the articulations, especially in those most common cases, where the starting point is within one of the epiphyses of a long bone. The inflammatory process, as we know, may affect the joint by destruction of the articular cartilage or by granular inflammation, or fatty degeneration, or necrosis, or the burrowing of a subperiosteal abscess into the joint, or by inducing synovitis. But long before these causes reach so far, an arthritis may be caused by an extension of the hyperæmia, or communication of inflammatory infectious products from the marrow through the system of canals in the compact tissue. In similar manner, when there is acute granular inflammation in the epiphysis, there may arise infiltration (with formation of pus) in the connective tissue near the joint, causing periarticular abscess, more frequently in children.

(4) Periostitis *osteomyelitica* is *very common* on the diaphyses, and it is quite possible that syphilitic periostitis in most cases is but the consequence of primary changes in the marrow. Periostitis of the diaphysis is also much more common than is generally thought, in granular inflammation of the joints, accompanied by epiphyseal periostitis. I wish not to be understood as alluding to osteophytes and enormous enlargements of the bone near the epiphysis, which is observed in some cases. I mean the truly parenchymatous inflammation of the periosteum accompanied with small serous exudation between the periosteum and compact tissue, showing itself as a slight but painful swelling when the limb is examined.

(5) Osteoporosis evidently accompanies every granular inflammation of the epiphysis. This I have *seen* when making resections and amputations in organic and traumatic diseases, and when examining the bones of the amputated limbs. Whilst the patient is yet growing, osteoporosis is sometimes developed with amazing rapidity along the diaphysis. The formation of fistulæ at a considerable distance from the articulation, (as for instance, in the middle third of the thigh in acute spontaneous inflammation of the knee) is explained on the ground of excessive osteoporosis. This however, is a rare occurrence. These fistulæ, at the bottom of which lies the

bone, covered with periosteum and traces of osteophytis often continue for a long time after the disease of the joint has favororably terminated.

(6) Abscesses forming in deep situations, near the bones, when not traumatic are *probably* due to periostitis osteomyelitica.

(7) The intra-osseous pressure in pathological processes of the joints and diaphyses is manifested in various ways. Sometimes in amputating a large long bone, the marrow is seen to protrude from the end of the medullary canal as soon as the bone is sawed through; at other times it remains level with the cut end and protrudes during the period of reaction.

(8) The bone marrow, as seen in amputating, has to some extent a diagnostic significance. Thus, for instance, a jelly-like, gray appearance of the marrow sometimes coincides with amyloid degeneration of the viscera.

(9) In considering the propriety of resections, it should not be forgotten that they diminish intra-osseous pressure.

I observed and hesitated a long time before I decided to operate in cases where intra-osseous pressure existed. But considering that trephining for this cause was analogous to cutting open the aponeurosis, and relieving a felon; remembering my success in the two cases of trephining above related, and considering the favorable results from igni-puncture, I finally operated by trephining the trochanter major in five cases of granular inflammation of the hip joint; and the surgical neck of the humerus in two cases in similar affections of the shoulder.

Trephining the Trochanter Major.—In four cases the patients were girls, eleven, fifteen, seventeen and twenty-five years old. Only in the first one the trouble was the result of spontaneous diffuse purulent inflammation of the marrow of the right femur, which had commenced three years before and had concluded its cyclical course when the patient entered the clinic (a large sequestrum had already been removed, etc.); in all the others the left hip joint was attacked by primary granular inflammation, apparently also proceeding from the femur, one-half, four, and seven years before they entered the clinic.

They all had *actual* shortening of the lower extremity of one two and a half and three centimeters from deepening of the acetabulum, etc., not from dislocation of the head of the femur. All suffered severe pain in the joint, and therefore were unable to walk; one patient complained of pain in the lower epiphysis of the femur, spontaneous and also slightly on pressure. In the youngest child the osteomyelitis had left an extensive sequestral capsule, occupying the whole length of the diaphysis of the femur, beginning at the trochanter major which was enlarged to double its size. This capsule was very painful. In all the others the trochanters were enlarged, but the diaphyses were of normal dimensions. All the patients complained of severe pain when the diaphyses were manipulated, especially in their upper two-thirds. There was no reason whatever for supposing that suppuration existed in the joints, but in the fifteen and seventeen year old girls, when passive motion was tried whilst they were anæsthetised, a slight grating in the joint evidenced roughness of the articular cartilages. None of them had fistulæ nor periarticular suppuration, but the seventeen-year-old one had a plastic infiltration on the antero-external side of the femur, in its upper third. It occupied partly the deep layers of connective, and partly the subcutaneous layer of adipose tissues.

I expected that trephining of the trochanter would cause a *prompt* diminution of pain in the joint and femoral diaphysis. This did indeed take place in two of the patients (fifteen and twenty-five years). Previously to the operation both patients suffered so much pain that they could not walk at all, much less stand up on the affected limb alone; not even for a minute or two, leaning against a support. On the second and third days after the operation they were able to do both without pain, and did not complain of pain in the joint or diaphysis when manipulated. In the third patient (seventeen years) the diminution of pain took place more gradually.

The further course of the disease was as follows: In two patients the operation wounds healed without complications. In the third patient (seventeen years) the deep infiltrations suppurated and had to be drained. Thus trephining had in these three cases evidently relieved the pain. In one of them (twenty-five years) the pain returned anew after six weeks, but it gradually abated. The patients remained in the clinic two, three and four months, during which time extension was occasionally applied. Two of them (fifteen and twenty-five years) were slightly cauterized with the hot iron around the healed operation wound. But it must not be overlooked that I trephined only in such cases were I could confidently look for a good result, and not because the disease ran an unfavorable course. Indeed I believe that trephining alone is *not* capable of producing a cure in inveterate cases of granular inflammation of the hip joint.

All these patients left the clinic in a very satisfactory condition, namely: (1) The shortening of the extremities had not increased; (2) the acute processes had ceased, and (3) there was no pain in active or passive movement of the thigh, and by leaning against a support they could stand a minute or two on the affected limb alone, without pain. One only had a very slight pain on abduction of the thigh, and another in the lower femoral epiphysis when standing on the sick limb alone. One patient was removed to the Maria Hospital; two others still lie at their homes awaiting the completion of their prosthetic apparatus, by means of which I expect they will be able to walk without apprehension of a relapse. The little girl of eleven years of age I do not consider safe from a possible development of caries in the place of the granular process.

The fifth case of trephining the trochanter major was that of a man of seventy-two years of age, with osteitis of the trochanter and probably also the femoral neck, who also presented the usual symptoms of intra-osseous pressure, namely: Pain on manipulation of the femur, pain in the trochanter, and the lower femoral epiphysis, without any changes in the knee joint. The patient was not treated in any way except the trephining, remained in the clinic a long time, and is now able to walk, but still complains of a slight pain in the knee, yet in all respects he has very materially improved.

Trephining the Surgical Neck of the Humerus.—This was done on account of granular inflammation of the shoulder joint which had begun principally in the humeral epiphysis (as was manifest from its osteoporosis) and had caused morbid changes in the synorial capsule and the soft tissues immediately adjaeent (slight granular infiltration). Both cases had run rather an acute course and showed signs of increased intra-osseous pressure.

Pavel Rodionof, aged thirty-eight, of medium size, servant in the anatomical institute, was taken sick two and one-half months before entering the academical clinic. Had been treated for a month in the clinical military hospital by a stiff splint bandage, tincture of iodine and warm compresses.

After trephining a manifest improvement took place. On the second day after the operation there was no more spontaneous pain in the joint. On the fifth day active motion was yet limited but painless; passive motion more extended and also painless. A month later improvement had so far progressed that he was ordered methodically to exercise the shoulder in active and passive motions, and yet a month later he left the clinic with a sound and normal joint.

The second patient, Maria Sylvanof, aged nineteen, of tender constitution, anæmic and *excessively* nervous, had suffered six months before entering the clinic. A granular inflammation of the shoulder joint had been slowly developing during that time. She neglected treatment and continued to work on the sewing machine up to within one month of her admittance, when excessive pain compelled her to desist.

After the operation she gradually improved and on the twentieth day active motion was painless, and only the greatest excursions of the arm were made with the help of the scapula; passive motion was perfectly normal. I prescribed lactate of iron, painting the joint with tincture of iodine, and applied borated cerate instead of Lister's bandage. She continued to improve and a couple of months later was perfectly well except her anæmia and nervousness.

I will make a few remarks as to the manner of operating:

The operation was in all cases performed under chloroform and the spray of carbolated water, and with all septic precautions. The trochanter major is exposed by an incision five to eight centimeters in length. Its periosteum is separated to a limited extent, and the trephine (of medium or small size) is placed at its root. When the cortical (compact) layer is penetrated as far as the cancellous tissue, or in osteoporosis as far as the bony canal, the round plate of bone is easily removed by means of two narrow-toothed chisels (elevators).

On the shoulder the incision is made on the external aspect, below the semi-sheath articuli humeri, in order not to injure the coronary vessels of the shoulder and the nerve, but this wound is very deep and the assistant must thoroughly fix the bone during trephination. The trephine is used and applied on the diaphysis, until the medullary canal is reached. In all my cases, whether I laid bare only the cancellous tissue of the epiphysis or the medullary canal itself, I found the marrow to be *red* and in various states of tension. Two of my seven patients had hemorrhage from the marrow soon after the operation.

In conclusion I will give my views on the operation:

(1) In some comparatively recent cases of granular inflammation of a joint, where intra-osseous pressure is well evidenced, trephination alone, that is, without any other treatment, may *radically* cure.

(2) Trephination promises to be of signal benefit in the period of incipiency of diffuse spontaneous purulent inflammation of the marrow. It may possibly be advantageous in these cases, to exchange the trephine for the brace with the American bit, in order to make not *one*, but *several* openings into the medullary canal.

(3) Evidently trephination may be used more frequently in conjunction with other means of treatment, such as extension ignipuncture, etc.

(4) Trephination invariably requires the most careful diagnosis. By *intra-osseous pressure* I mean:

(*a*) Acute inflammatory hyperæmia of the marrow, preceding its suppurative inflammation and conjoined with incipient periostitis of the diaphysis and with acute arthritis.

(*b*) Tension or compression of the marrow, in consequence of hyperæmia and granular infiltration, more or less acute, with the consequences mentioned under (*a*).

(5) Trephination of the diaphysis is indicated in some cases of periostitis osteomyelitica, which may in the first place develop from a limited inflammation of the marrow or from its tuberculous inflammation (osteomyelitis spontanea circumscripta et osteomyelitis tuberculosa).

(6) Trephination acts as a revulsive and by lessening the intra-osseous pressure.—Translated in abstract from *Med. Obozr.*

A*

DECAPITATION.

BY V. A. TSHUDNOFSKY.

The time has long gone by when obstetricians considered it their greatest triumph to have extracted the fetus *whole*, no matter if dead, and regardless of the consequences to the mother. Ever since the time of Ochler and Michaelis the consciousness of the necessity and expediency of embryotomy in difficult transverse positions has been steadily increasing, so that now-a-days hardly anybody denies that in principle, at least, embryotomy deserves decided preference over turning, in cases when the fetus is dead and turning is accompanied with difficulties. Nevertheless, embryotomy is practiced less often than one might expect, and then only when all attempts at turning have failed, or are altogether out of the question. Such, at least, is the advice of Schroeder and Spiegelberg. (*We*, however, should qualify it, by limiting its applicability to the living fetus only.) And C. Braun, in one case of transverse position, made repeated attempts at turning, ere proceeding to decapitation although he knew the fetus to be dead, and the waters had been discharged forty-eight hours previously, the mother being feverish, and the womb hyper-sensitive to touch and contracted in a tonic spasm.

Although we are willing to make exceptional allowance for so experienced an obstetrician as Braun, yet we think a similar proceeding admissable only when the fetus is living and we are anxious to save its life. If the fetus be dead, why should the mother be exposed to such extreme danger, especially when we take into consideration that in most cases the turning is performed not by experienced specialists, but by the general practitioner? Why should the uterus he subjected to the distension necessary for turning, and thereby exposed to the risk of rupture, at a time when inflammatory symptoms are frequently present and its lower segment is much thinned—both conditions favoring rupture? Should we not, under such circumstances, rather perform embryotomy, and thereby easily remove the embryo, without subjecting the uterine walls to the violence of uneven pressure and distension, unavoidable in turning?

Provided that we follow a method and use an instrument whereby our object may be attained promptly, easily, and without risk of injuring either patient or operator, we should lay it down as a rule that the death of the fetus in the transverse position is an absolute indication for embryotomy, excepting only such cases in which it could be determined on the first examination that turning would be very easy.

The most common operation of embryotomy is decapitation. The numerous existing patterns of instruments and the opposing opinions concerning their efficiency clearly show that they are not perfect. The more complicated ones, as well as those of difficult application have found but few admirers. Neither has the simple sickle-shaped cutting knife, which lately has been so much lauded by Küstner, found much favor, because of the danger of wounding with its sharp edge. Of the simpler instruments the most commonly used are the shears and Braun's blunt hook. But decapitation by means of the shears, although appearing very simple and easy, seems to us one of the most difficult obstetrical operations, for the field of action is hid from sight, the cutting has to be done from without inwards and in so narrow a space that it is exceedingly difficult to cover the ends of the blades with the fingers, or guide their direction. It is therefore difficult to avoid wounding the uterus and the operator's hand, and the operation is tedious and dangerous at the same time. Finding the use of the decapitating shears (of Dubois) so difficult, I was at first inclined to ascribe the difficulty to my own awkwardness and lack of experience, but since I have had opportunity to observe that the use of this instrument was just as difficult in the hands of one so thoroughly experienced as Professor Depaul, I have come to the conclusion that the shears are not a fit instrument for general practice.

The blunt hook of Braun, though much used, has lately been violently denounced by Professor Küstner. In answer to him Dr. Pawlik and Professor Bidder cited about forty cases of decapitation by means of the blunt hook, with but a small percentage of mortality, thereby practically refuting the denunciations of Küstner. Although we do not share the opinions of the latter, yet we have had opportunities to verify in practice the correctness of the objections made to the blunt hook by some men whose opinions are worthy of consideration, such as Professors Spiegelberg and Krassofsky. The blunt hook is easily used in cases of a small and macerated fetus, but it is different when the fetus is large and fresh. In the latter case the neck does not fit into the hook, and in order to divide the spine it is necessary first to perforate the skin with the blunt end of the hook, and the skin being tough and elastic, this requires the application of so much force, reacting on the fetal head, that the lower segment of the uterus is exposed to severe pressure; and the rotary motions of the hook are communicated to the head, increasing the unevenness of distension of the uterine walls and the risk of their rupture. These disadvantages, it is true, may be neutralized to some extent by counterpressure exerted by the hand fixing the neck; but this requires an amount of muscular strength that not every operator possesses. Besides that the mobility of the skin allows the hook to slip whilst it is rotated, which may occasion grave injury, and finally, the hand of the operator, being compressed in an uncomfortable and almost motionless position within the uterus, becomes benumbed and unable to manipulate.

In our opinion these difficulties and dangers can easily be avoided by a little modification in the method of using the hook. I pinch up a fold of skin on the most accessible part of the fetal neck and cut it by means of Dubois shears. Into the opening I insert the finger, separating the skin and cellular tissue as far as possible. Into the passage thus made, it is easy to introduce the blunt hook so as to grasp the neck. Two turns suffice to tear the muscles and divide the spinal column, leaving the skin like a bag. This is then hooked down with the finger, and divided with the common blunt-pointed shears. The trunk of the fetus is easily extracted, and if there is difficulty about removing the head, it can be overcome by means of introducing a finger into the mouth and fixing the occiput with the forceps. One practical comparison between the usual method of using the blunt hook and the one suggested by me will suffice how much easier the operation is performed by my method, which has moreover the advantage that the uterus is protected by the fetal skin from abrasion or contusion from immediate contact with the hook.—Translated in abstract from *Vratch.*

ANEURISMATIS AORTÆ ASCENDENTIS: DIAGNOSIS.

BY P. N. VELIGEANINOF.

Professor Botkin, in diagnosing aneurism of the ascending aorta, attaches great importance to a special kind of asthma (dyspnœa) which accompanies this disease. It is characterized by the violence and shortness of duration of the paroxysms. Relying on this symptom and a slight dullness along the left parasternal line, the professor has frequently diagnosed the disease correctly, as was afterwards shown by the autopsy.

In his opinion "the periarterial inflammatory process extends to the nervous ganglia of the heart which lie near the root of the aorta and in this way a cardiac neurosis is caused, which interferes with the pulmonary circulation and the normal exchange of gases. At the same time it is unavoidable to conclude that the enlargement must begin near the origin of the aorta; for if it were in the region of the arch it would press on the left bronchus and the recurrent nerve, and there would be *constant*, not paroxysmal dyspnœa.

The following case will illustrate this important distinction.

L. V., age fifty-nine, entered the clinic complaining of dyspnœa, oppression, palpitation, cough and insomnia. The attacks of dyspnœa come on about six in the evening and with interruptions continue from seven to eight hours. The feet are œdematous. Has been sick three years. In the beginning there were pains in the anterior part of the thorax, in the region of the heart; also in the shoulder and arm down to the finger. Lately the pain is less, but the paroxysms of dyspnœa are most troublesome.

The patient was found to be of medium height and constitution. The skin and mucous membranes were pale; the temporal artery was tortuous; pulse bounding, ninety-two to one hundred, synchronous with the heart beats and the pulse on the opposite extremity. There is noticeable a series of high and low waves, lasting ten to fifteen seconds.

There is epigastric pulsation; the cardiac region is prominent; the impulse is diffuse and weak. Along the parasternal line there is a decided dulling of the pulmonary sound and subcrepitant rales, beginning about one and one-half finger's breadth below the sternal end of the clavicle, and extending about as far to the left of the parasternal line, and reaching beyond the median line; below, this dullness merges into the area of cardiac dullness which begins at the third rib and extends to the seventh; to the right it reaches beyond the median line—to the left about one finger's breath beyond the nipple. The right boundary line of cardiac dullness changes occassionally, especially during the paroxysms of dyspnœa. The liver protrudes about two fingers' breadth beyond the margin of the ribs; there is ascites.

There are two heart sounds at the apex; the second with a decided murmur, which increases in the direction toward the base. At the scrobiculum the first sound is accented, the second accompanied by a murmur. Over the aorta there is a murmur with the first sound, and instead of the second sound there is a very decided short murmur. The sound in the femoral artery is very clear and decided, the same in the radial artery. During the paroxysms the second sound is noticeable in the aorta, and when the paroxysm is at its height, this sound completely supersedes the murmur. In the supine position the the dullness along the left parasternal line disappears almost entirely; the rales are less; the area of cardiac dullness is much lessened.

The paroxysms occur as follows: The face pales, the extremities become cold, respiration from twenty-two rises from forty-four to fifty-six, becomes superficial, almost without pause; the diaphragm and the intercostal muscles of the lower segment of the thorax are drawn in during inspiration; the eyes become bloodshot; the cervical veins swell; speech becomes difficult; the pulse reaches one hundred and twenty, but still preserves its bounding character; the cardiac dullness increases in degree. The attacks last one, two or three minutes, then there is an intermission of half an hour, etc. Vocal cords are normal.

Judging from the forgoing it would be pardonable to diagnose deficiency of the aortic semilunar valves; but Professor Botkin diagnosed aneurisma aortæ ascendentis, for the following reasons: (1) because the diastolic murmur was not constant in the aorta, but during the acme of the paroxysm was supplanted by the sound, and (2) because of the nature of the attacks. He explained the constancy of the bounding pulse by its "being caused not by the heart itself, but by the aortal cavity, which naturally had to keep emptying itself till death set in; hence the constancy of the pulse."

The patient died on the fortieth day after admission. The autopsy revealed aneurism of the bulbus aortæ, atheromatosis of the aorta and its branches, and hypertrophy of the left half of the heart. Consequently the diagnosis was fully confirmed. —*Med. Obozr.*

A NEW OSTEO-PLASTIC RESECTION OF THE TARSUS.

The new method of Dr. Miculich, the Russian surgeon, has been recorded in the minutes of the last surgical congress at Berlin, and will probably be accorded a place among the typical operations. We, therefore, give a description of it.

The patient, age twenty-three, had inherited syphilis and suffered from creeping (wandering) ulcers on the right heel and around it. He was being treated in the syphilitic ward of the Vienna clinic, but as there was no hope of curing the ulcer and re-establishing the functions of the tarsus, he was removed into the surgical ward, for amputation of the foot. The ulcer occupied the posterior half of the sole and the outer border of the tarsus, and behind reached up as high as the malleoli; almost the whole surface of the leg was covered with cicatrices involving the bones and the atrophied muscles. The patient was of feeble constitution, emaciated, and had a contraction of the right elbow and knee. Under strict antiseptic precautions and local anemia the operation was performed as follows:

The patient was placed in the prone position. An incision was made transversely through the sole, beginning somewhat anteriorly to the tubercle of the scaphoid bone, and terminating behind the tuberosity of the fifth metatarsal bone. From both the angles of this incision, other incisions were made as far as the malleoli, and finally, the ends of these latter incisions were united by an incision around the posterior surface of the tibia. All the incisions were carried down to the bones. The tibio-tarsal articulation was opened from behind, the tarsus strongly flexed on the tibia (flexio dorsalis), the calcaneus and astragalus were carefully separated from the soft parts in Chopart's line of disarticulation. Next the malleoli and articular surface of the tibia were sawed off transversely, from behind, and also the posterior surfaces of the scaphoid and cuboid. Thus there were removed: the tibio-tarsal articulation with the whole of the astragalus, the calcaneus, and the posterior halves of the scaphoid and cuboid. The remaining anterior part of the tarsus being by a bridge of about three or four fingers' breadth, consisting of the integument and the extensor tendons. After the arrest of the hemorrhage both sawed surfaces were brought into apposition in such a manner that the remnant of the foot formed a direct continuation of the leg and the sewed edges of integument formed one horizontal line encircling the posterior surface of the leg. As the bridge of integument was too long, and therefore did not keep the bones in close apposition, it was temporarily pinched up in a transverse fold which was held by a few deep stitches. The wound healed per primam intentionem at the bottom, but final cicatrization took place only in two months, because the lower edge of the skin wound sloughed to the extent of one to two centimeters. After the wound had healed, the patient began to use the right limb, first by the aid of two crutches, then of one. Two months later he could walk without either crutch or stick. He stepped on the toes, which had a horizontal direction, and on the heads of the first two or three metatarsal bones. In order to retain the toes in the horizontal position Dr. Miculich had, after resection, subcutaneously divided the flexor tendons in the sole and had fixed the toes at right angles to the metatarsus. This was indispensable in our case, as the patient's toes had for a long time been flexed. As the foot operated upon proved to be one and one-half centimeters longer than the sound one, a high boot was ordered to be made for the latter. The first was fitted with a prosthetic apparatus similar to the one used after Piragoff's operation. At present the patient walks well.

Considering the favorable result attained in this unpromising case, Dr. Miculich hopes that his operation may prove useful in caries of the foot, when the ankle and calcaneus alone are affected; in incurable affections of the soft parts in the region of the heel; and finally in injuries, especially from gunshot, of the calcaneus and adjacent parts.—*Med. Obozr.*

A LIQUID MEMBRANA TYMPANI.

In chronic perforations of the membrana tympani considerable improvement of hearing is sometimes obtained through insertion of an artificial drum membrane. This improvement does not depend upon the vibrations of the new membrane as such, but on the pressure which it exerts on the remnant of the natural membrane, and the communication of vibratile motion to the ossicula auditus. It is, therefore, indifferent what medium is inserted to act as artificial membrane, whether it be an elastic rubber membrane, or a little wad of cotton. But all such substances have the great disadvantage that the patient either does not tolerate them at all, or only for a very short time, and that they produce subjective noises in the ears, pain, unpleasant sensations and even vertigo. If, to avoid this, they are not pressed close enough to the drum membrane, they do not act at all. The author, in his experience, knows of but very few patients who could endure the presence of an artificial drum membrane longer than fifteen minutes at a time. Like Troeltsch and Toynbee, he has observed that some patients with chronic perforations, can hear a great deal better immediately after syringing the ear, whilst a small quantity of fluid yet remains in it, and he made practical use of this circumstance in the following manner: The patient, a man, had chronic perforations in both drum membranes and slight otorrhœa for five years. Hearing was much impaired. Astringents and inflation had been used without relief. The author tried to introduce wads of cotton. In the right ear there was no change; in the left ear there was at first considerable improvement but the patient could endure the wads only for a few minutes; then followed so much pain and vertigo that they had to be removed. In this case, also, there was improvement of hearing after syringing, therefore, the author concluded to try and substitute a fluid body for a drum membrane. He made the following preparatory experiment: Into a glass tube of the thickness of a lead pencil, and closed at one end, he poured a few drops of purest glycerine, and on top of it a few drops of elastic collodion. The two fluids did not mix, and the collodoin formed a thin membrane over the glycerine, so that the tube could be inverted without the glycerine being spilled. Satisfied with the result, the author instilled a few drops of glycerine into the patient's ear, and tried the hearing power after the addition of each drop, adding glycerine so long as the additions caused an increase of hearing. When an excess of glycerine had produced a diminution of hearing, he withdrew a little glycerine on a cotton wad, and then poured in a few drops of collodion. The patient's head was inclined in a way that the fluids should remain at the bottom of the meatus. The result was very satisfactory. Before the experiment the patient could hear the voice only when the words were shouted into his ear; immediately after it, he could hear a whisper at a distance of fifteen feet, and the ticking of a watch at a distance of half a metre. The first time the fluid remained in the ear only half an hour, then the collodion membrane burst and the glycerine escaped. The second time the collodion membrane held out for four days, and after that the operation had to be repeated only once a week.

Another case was similarly treated, also with good results.

The author also treats chronic otorrhœa by the same means, adding astringents to the glycerine. By this means he cured several very obstinate cases of otorrhœa, of many years' standing. The favorable effect is probably due to two causes—the continued exclusion of air and the prolonged action of the remedies. There is no occasion to fear an accumulation of pus, since experience has shown that the colodion pellicle breaks so soon as the pus begins to exert noticeable pressure.—Michael in *Berl. Klin. Woch.*, quoted in *Med. Obozr.*

Translations from German Journals for THE PHYSICIAN AND SURGEON.
BY VICTOR C. VAUGHAN, M. D.

TREATMENT OF ALBUMINURIA WITH FUCHSIN.

Feltz and Bouchet (*Deutsch. Med. Wochenschr.* 1879) first proposed this remedy in pills of three grains per day for chronic parenchymatous nephritis. Later, Professor di Renzi, of Genoa (*Virchow's Archiv*, Volume LXXX), reported more fully on the use of the remedy. He gives it in pills of 2½ centigrams (3.8 grains) each, beginning with two pills and increasing to ten per day. Under this treatment he found a marked decrease in the amounts of albumen and mucus. The drug causes distinct coloration of the urine, and if this effect is not produced, it is an evidence that the drug is not absorbed, and its use should be discontinued. Now, Dochmann (*Vratsch*), having made extensive use of fuchsin, draws the following conclusions:

(1) In many cases of albuminuria, the amount of albumen in the urine is decreased under the use of fuchsin.

(2) In other cases, the decrease is only apparent, as the albumen in such urine is converted into pepton more rapidly than usual.

(3) The coloration of the urine by the drug bears no positive relation to the decrease in the amount of albumen.

(4) Arsenic-free fuchsin can be given for a long while to adults without injury in doses of from one of two grams per day.

Translations from German Journals for THE PHYSICIAN AND SURGEON.
BY HAROLD GIFFORD, S. B., M. D.

INVESTIGATION CONCERNING THE SCIENTIFIC BASIS OF ANTISEPSIS.

BY P. ZWEIFEL,
Professor of Gynæcology in Erlangen.

ABSTRACT OF AN ARTICLE IN ZEITSCHRIFT FUR PHYSIOLOGISCHE CHEMIE, BAND VI, HEFT IV U. V.

Zweifel reters to the idea which Lister had in developing his antiseptic treatment of wounds, and which has hitherto been generally accepted as its fundamental fact; that the tissues of the living body are free from germs, and that if the access, to wounds, of air containing them can be prevented, no putrefaction, and hence no septicæmia can result. He then describes some experiments of Billroth and of Ziegler, made in 1874, which tended to show that tissues would putrefy, and bacteria would develop under conditions which apparently precluded all possibility of any contact with germs, unless these were already present in the living body. Their results were confirmed by Burdon Sanderson in 1878, and by Rencki and Giacosa in 1879. In all of these experiments, however, a large proportion had given negative results, and although the experimenters themselves were all convinced of the existence of germs in ante-mortem tissues, they made but little impression, on account of the enthusiasm which was felt in Europe at the success of Lister's method. Zeigler's experiments were commenced in 1879, and extended over about two years. They are of particular interest from the fact that on commencing them he was decidedly sceptical as to the results obtained by the before-mentioned observers. His results were as follows: (1) Blood, both venous and arterial, drawn from an animal with the utmost precautions to prevent access of air and kept in a Torricellian vacuum at 38° to 40° centigrade, coagulated, but showed no signs of putrefaction. (2) Pieces of heart muscle placed in the vacuum with the same precautions, invariably putrefied. (3) Blood obtained with the same precautions as before, but deoxygeated by the air-pump, or by passing a current of pure hydrogen through it, in some cases showed signs of putrefaction, by a development of gas, but in most cases there was no change. (4) Heart-muscle obtained as before, but placed in pure oxygen, showed no tendency to putrefy. (5) Blood obtained as before and kept at 38° to 40° centigrade, for a week or more, and then injected into the peritoneal cavity of rabbits, in no case caused more disturbance than could be easily accounted for by the external wound; while blood deoxygenated and then kept for the same time at the same temperature, caused, when injected as before decided constitutional symptoms in all cases but one, and in most cases, death from peritonitis. Zeigler concludes from these experiments that germs are always present in the living body, but are prevented from developing, or at least from developing in such a way as to be capable of causing septicæmia, by the abundance of oxygen present. Several observers have shown the unfavorable influence which living tissues exert on the development of bacteria, but they give no definition of what they mean by "life." Zeigler thinks "life" means the possession of oxygen. To reconcile his results with the use of antisepsis in surgery, in which he is a firm believer, Zeigler experimented on the action of various antiseptics on blood, with results which varied greatly, according to the substance used. With several, particularly with carbolic acid, the blood kept its bright arterial hue for a long time, and Zeigler suggests that their antiseptic action may be due to their possessing a strong affinity for oxygen. The suggestions are decidedly the least valuable part of the paper. Of course, the value of such experiments depends upon the care with which they are carried out, and the original is worth reading, if only to learn how to conduct such an investigation.

In the same number is an article by Wortmann, of Strasburg, on the "Diastatic Ferment of Bacteria," of which we give a few of the most important points. Wortmann added to mixtures and solutions of various kinds of starch in water bacteria cultivated in an ordinary culture fluid, and arrived at the following conclusions:

(1) Bacteria can produce with starch granules, starch clysters, and starch solutions, the same changes as are brought about by diastase. (2) Different kinds of starch require different lengths of time for their conversion, as is the case with diastase. (3) Bacteria exert their influence on starch only when no other carbon compound, which can serve as food, is at hand, and when the free access of the atmospheric air is not prevented. (4) Bacteria exert this influence by means of a ferment secreted by them for this purpose, and which, like diastase is soluble in water and precipitated by alcohol. (5) This ferment has only a diastatic action, that is, it changes starch into sugar, but does not peptonize ordinary proteids. (6) The ferment, when separated from the bacteria, will exert its action without access of oxygen. (7) The ferment is secreted in neutral solutions of starch, and is active under these conditions, but the conversion of the starch goes on faster when the solution is slightly acid. In brief, bacteria, which in a solution of albumen will secrete a proteolytic ferment, will, when placed in a solution of starch, secrete an amylolytic ferment. The organisms adapt themselves at once to the change in the environment. The idea is not new. It has long been known for instance that penicillia will absorb oxygen and excrete carbonic anhydride, or the reverse, according as it, is placed on the surface or in the midst a solution of sugar; but these experiments give a striking illustration of the protean nature of these low organisms, and the importance of the principle, in connection with the germ-theory of disease, is at once apparent.

BOOK REVIEWS.

THE CHANGE OF LIFE IN REALTH AND DISEASE: A Clinical Treatise on the Diseases of the Ganglionic Nervous System, incidental to women at the decline of life. By Edward John Tilt, M. D., President of the Obstetrical Society of London. Paper: Pages 184: Price, 75 cents. P. Blakeston, Son & Co., Philadelphia: 1882.

An important and authoritative work on an important and but poorly understood subject. The scope of the work is indicated in the title, and we can say that justice has been done his subject by the eminent author. No physician should fail to read this book, and the form, in which the publishers have issued it, places it in the reach of all. The type and paper are good.

THE INCIDENTAL EFFECTS OF DRUGS: A Pharmacological and Clinical Hand-Book. By Dr. L. Lewin, Assistant at the Pharmacological Institute, of the University of Berlin. Translated by W. G. Alexander, M. D. Cloth: Pages, 235. New York: William Wood & Co., 1882. For sale by John Moore, Ann Arbor.

This work contains a collection, systematically arranged, of all the reported peculiarities of action of drugs. The various rashes produced by quinine, bromide of potassium, etc., are described. These "therapeutical inconveniences," as the French call them, are often a source of great perplexity to the physician, and we know of no work better suited to inform him on the subject than the one now before us.

SELECTED ABSTRACTS.

SPONTANEOUS RUPTURE OF THE RECTUM.

A recent number of the *Revue de Chirurgie* contains an interesting article on the above rare occurrence, by M. E. Quenu. The author applies the title to cases of rupture, in consequence simply of muscular effort, of all the coats of an apparently healthy bowel. The first case of the kind was published by our own countryman, Sir B. Brodie. M. Quenu has collected six others, one of them having been observed by himself in the clinique of Professor Richet. The records are not all equally complete. In four out of five in which information on the point is given, there was old and well-marked prolapse of the rectum. The rupture was always produced during an effort, four times during defæcation, once during vomiting, once while lifting a heavy weight, and once in consequence of the patient's straining while the surgeon was endeavoring to reduce a prolapse of the rectum. Excepting for rectal prolapse, the patients were well prior to the rupture. The rupture in each case took place suddenly, at the moment of effort. The patient felt acute pain in the belly, malaise, and perceived a voluminous mass protrude from the anus. Sometimes the protrusion was preceded by hemmorrhage. The general condition quickly became worse, the face pale and Hippocratic, the voice feeble, the extremities cold; the intellect remained clear. Disappearance of the prolapse immediately followed the protrusion of intestine. The straining of the patient quickly caused the expulsion of more intestine, which formed a mass hanging between the thighs, and soon became congested and inflamed. When examination is made in such cases, the relaxed sphincter commonly offers no obstacle to digital exploration, and the pedicle of the protruded swelling can be followed up to the rent in the bowel, unless the latter should be too high up to be reached- The only treatment at all likely to be of service, of course, is the reduction of the mass. This is very difficult. In two cases laparotomy was performed and the bowel pulled up. In another the protruded intestine was opened and evacuated of fæces and flatus. After the protruded intestine has been reduced, the rent in the rectum should be sutured. If it be possible to reduce the intestine per rectum, the laceration may possibly be also sewn up in the same way; or the rectum, if previously prolapsed, may be pulled down and then stitches put in. We would remark, with reference to this proceeding, that in the present day laparotomy is not so dangerous a proceeding as it was in the days when some of the cases which M. Quénu quotes occurred; and hence that probably now, in the presence of so grave an accident, few surgeons would hesitate to open the abdomen, pull up the prolapsed bowel, and suture the wound. To elucidate the pathology of this accident, Dr. Quénu has made experiments to ascertain the resistance which the rectum offers to a bursting force. Having stitched up the anus, he pumped air into the rectum, measuring the pressure. He found that the rectum would bear, without giving way, a pressure equal to that of a column of mercury sixty centimeters high (about twenty-three inches). When the pressure passed that of seventy centimeters, the peritoneal coat began to crack, and the other coats followed. We may add, that Schatz has shown that the ordinary pressure within the rectum is equal to that of a column of mercury from twenty-five to thirty centimeters high, and that it sometimes rises to that of fifty centimeters of mercury. He also tried, by forcing injections into the veins, to rupture the rectum; but the anastomosis was so free that this result did not happen, and moreover, at a pressure of forty to fifty centimeters, the vein burst in the meso-rectum. The explanation which Dr. Quénu holds as probably correct, is that the rupture takes place in a bowel of which the veins are varicose, its walls congested by prolapse, and softened by infiltration of leucocytes and inflammatory effusion. He points out that in the three recorded cases of spontaneous rupture of the œsophagus, one occurred in an immoderate drinker, and the other two were preceded by vomiting of blood; from which he concludes that the condition ot the œsophagus in them probably resembled that of the rectum in the cases under consideration.—*Medical Times and Gazette.*

RETENTION OF FŒTUS DURING SIX YEARS: REMOVAL OF BONES THROUGH THE ANUS.

Mr. Hough, after making some general observations on extra-uterine pregnancy, related a case of a patient under his care, who was now twenty-nine years old, and had been married twelve years. In September, 1874, she became pregnant for the first time, and menstruation ceased. Throughout January and February 1875, she had more or less sickness; but did not come under observation till early in May, when she sent for Mr. Hough, on account of a slight discharge of clotted blood, and some pain. Labor appeared to be commencing, and she was recommended to keep quiet, and send for a nurse; no vaginal examination was made. In a few hours the pain abated, and the discharge ceased; at this time distinct fœtal movements were felt, and the fœtal heart was heard. She was seen from time to time till the autumn, but nothing calling for interference occurred. The shape of the body altered, the tumor being more to one side than previously had been the case, and the milk disappeared. In October, she was seen by an eminent metropolitan surgeon, who diagnosed ovarian disease, and recommended her to take liquid extract of ergot; and, after taking this for a fortnight, the catamenia came on, and had continued regular from that time to the present. For several years Mr. Hough lost sight of her; but, at the beginning of the present year, she consulted Dr. Humphry, who at once communicated with him about the case. At this time the great pain from which she suffered rendered further examination necessary. Ether was administered, and, on examination per rectum, a large cavity, in which the bones of the fœtal head could be felt, was discovered, and one by one Dr. Humphry extracted the fœtal bones, through the opening in the bowel, by the finger. The patient did extremely well, and at the present time no trace of the cavity remained, and she was in perfect health.

Dr. Humphry gave an account of an almost precisely similar case. The patient, aged twenty-four, had been married about a year, when the catamenia ceased, and the breasts and abdomen began to enlarge, and for a time there was morning sickness. At full time, the symptoms of labor (recurring pains with colored discharge) came on. The labor was unusually protracted. Mr. Ramsay of Shelford, on examination, found the os closed, and the neck of the uterus small, hard and firm. The enlargement of the abdomen was greater on the right side than the left, and did not present the oval outline of the gravid uterus. The pains returned at intervals of a week or ten days for two months. She then became an in-patient, under Dr. Humphry's care, in Addenbrooke's hospital, complaining at this time of constant pain in the lower part of the body, and of a blood-stained, somewhat offensive, discharge from the vagina. On examination, a swelling was found occupying the lower part of the abdomen, and extending from the symphysis pubis to about half an inch above the umbilicus, which was dull on percussion. The os and cervix uteri were as in the ordinary unimpregnated condition, and so undilatable that it was found impossible satisfactorily to explore the interior of the uterus. During her stay in the hospital, two fœtal nails were passed per vaginam; at the expiration of five weeks she was discharged. Two months later, she complained of severe abdominal pain, and had a rigor, and in the course of a few days began to pass a large number of fœtal bones by the anus. From that time the woman began to regain health and strength, and the catamenia had since been re-established. Dr. Humphry had recently examined the patient; there was still a firm swelling in the pelvis, containing probably some bones, but nothing could be discovered by the finger in the rectum or vagina.

The important practical lesson to be deduced from these two cases, and others like them, which have been recorded, was, that the result is often favorable when they are left to themselves. The chief dangers were in the earlier stages of extra-uterine fœtation; but, when the later stages were reached, the prognosis was, on the whole, good.—*British Medical Journal.*

PYÆMIC PNEUMONIA AND PERITONITIS RESULTING FROM RETENTION OF A PIECE OF SPONGE IN THE VAGINA.

About the end of July 1881, a woman, aged about twenty-four, came under my care at the Saint Marylebone Infirmary, where I was then resident surgeon. When admitted, she was partially unconscious, not being able to answer when spoken to. Her breathing was quick and labored, and I found that both lungs were completely dull, and no respiratory sounds could be heard except in the region of the throat. She had no cough, neither did she expectorate. Her abdomen was very tense and painful when touched. The left knee was considerably swollen. Her eyelids were constantly closed, with both pupils slightly but unequally dilated. The pulse was 122, weak and very compressible; the lips dry and brown, without sordes; the tongue dry, brown and cracked; the breath very offensive, and the face covered with beads of sweat. The patient never rallied, and died two days after admission. The hectic flush was not present. For about six hours previous to death the sweating was most profuse.

At the necropsy both lungs were found to be almost completely solid from congestion; numerous pyæmic abscesses were scattered through their substance. Both pleuræ were adherent from recent deposit of lymph. (This latter fact was remarkable, as I believe it is rare to get any fibrinous formation in pyæmia.) The surfaces of the pericardium were covered with a fibrinous deposit, not adherent. The fluid in the pericardial sac was of a dirty white color, which, under the microscope was found to result from the presence of cells, much resembling pus. The heart was otherwise healthy.

In the abdomen, the peritoneal surfaces were adherent from recent deposit of lymph, and much pus lay in the abdominal and pelvic cavities. Numerous small abscesses were scattered throughout the substance of the liver. The spleen was about three times its average normal size from congestion, but free from abscesses. The stomach, intestines (with the exception of the rectum), kidneys, capsules, and pancreas appeared to be healthy. Both ovaries were congested. The pelvic cavity was full of a purulent fluid, tinged with blood. On removing the pelvic contents, a recto-vaginal fistula was discovered, the indurated condition of its edges showing it to have existed for some time; the whole of the rectum was ulcerated. A large abscess, about the size of an ordinary orange, occupied the posterior cul-de-sac of the vagina, with an opening on its peritoneal surface. The entire vaginal canal and the neck of the uterus were in a state of ulceration. A piece of sponge, three and a half by two inches in size, lay in the upper part of the vagina and partly in the uterus, the os of which was much dilated. It was sodden with a dark, offensive fluid. I concluded that the immediate cause of death was the congested condition of the lungs, hastened by the peritonitis, and that the pyæmic abscesses in the liver and lungs resulted from the ulceration of the rectum, in the same way as hepatic abscess occurs in dysentery.

The peritonitis was evidently caused by the rupture of the vaginal abscess into the abdominal cavity.—*British Medical Journal.*

TINCTURE OF IODINE IN ERYSIPELAS.

One of the most remarkable and rapid cures I have ever seen, followed the application of the tincture of iodine to a case of idiopathic erysipelas of the head and face. The patient was a large robust man, of very plethoric habit, a free liver, and in every way the type of man one would expect to have a violent attack of an inflammatory disease like erysipelas. Iron and the usual internal remedies had been administered; and, when I first saw him he was unconscious, rambling, and thought by all to be *in extremis.* As no local application had been thoroughly tried, I suggested cutting away the hair and painting the scalp with tincture of iodine. At the same time I increased the dose of iron, and added forty minims of spirit of chloroform to each dose. The effect was magical. On meeting the next day for our consultation, we found every symptom improved; the redness had subsided, the stiffness was nearly gone, and consciousness was returning. The next day he was out of all danger, and was soon convalescent. He never had any return of the disease.

I think the rapid cure in this case is entirely due to the iodine application, as from its very first application the local symptoms showed marked improvement. Certainly, in my experience, I have never seen so apparently desperate a case recover so soon.—Dr. Hutchinson in *British Medical Journal.*

THE

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ORIGINAL ARTICLES.

CASE OF TRIPLETS: A PROLIFIC MOTHER AND A PONDEROUS GESTATION.

BY E. P. CHRISTIAN, M. D., WYANDOTTE, MICHIGAN.

Mrs. Caspers of this city, confined September 9, 1882, about 9 P. M. In labor about one hour. No physician in attendance at this or either of her previous labors, the necessary services being rendered by women.

The patient, though twice previously the mother of twins, recognized something unusual about her condition in the latter months of this gestation, and had been visited and prescribed for by my son, Dr. E. A. Christian, for a threatened miscarriage at about eighth month. This was safely tided over, and the young doctor was engaged to take charge of her confinement, but unfortunately missed signalizing the commencement of his obstetric practice by having charge of so uncommon a case, in consequence of having gone from the place a few days previously. The labor was steady and recovery prompt and unimpeded.

Labor terminated at 9 P. M. Saturday evening. On Monday, 9 A. M., I called and found patient sitting up, dressed on the edge of the bed, complaining only of intense backache from which she has greatly suffered during past two months. At this date, September 20 (eleventh day), she is about the house doing much of her housework in addition to the care of her children. Her appearance before confinement had been characterized by my son and others who had seen her, as prodigious. The children quickly followed each other. The first, female, weight (as afterwards ascertained), six and a half pounds; second, male, weight eleven pounds; third, male, weight ten pounds; total, twenty-nine and a half pounds. There were two placentæ. Her whole parturient history is as follows:

First Labor.—September 20, 1878. Twins. Boy and girl. Boy lived but four months.

Second Labor.—August 15, 1879. Two boys. One lived six weeks. Second labor inside of eleven months from first, and four children given birth to in that time.

Third Labor.—September 9, 1882. Triplets. Seven children within four years.

The children are at this date doing well, though the mother has no nurse for them. They are at present using diluted cow's milk. Mrs. C. is a woman of medium size, neither large nor small, of Irish extraction. Her husband is German.

ANNUAL REPORT OF THE HOUSE SURGEON AND RESIDENT PHYSICIAN OF THE UNIVERSITY HOSPITAL.

BY GEORGE F. HEATH, M. D.

To the Honorable, the Board of Regents:

GENTLEMEN: I have the honor to submit the following report:

During the past year, from October 1, 1881, up to and including June 24 last, thirteen hundred and twenty-seven patients have registered and been treated at the clinics of the Department of Medicine and Surgery, this number not including one hundred and four patients who have returned within this time for treatment for the same or some other ailment.

Of this number eight hundred and twenty-three have remained in the hospital; the remaining four hundred and ninety-eight, through choice or necessity, owing to want of room in the hospital, have found accommodations outside. Besides this, many patients have been accompanied by their friends, to care for them during their sickness. The number extends into the hundreds, but no official record of them has been kept.

The patients have been classified as follows:

Diseases of the Eye and Ear	526
Surgical Cases	400
Medical Cases	328
Diseases Peculiar to Women	73
Total	1327

A large number of patients have entered two or more of the clinics. In the above arrangement the patient has been put in that department in which he more particularly belongs.

They came from fifteen States, Ontario, and Manitoba, namely: From Ohio, thirty-nine; Indiana, thirty-eight; Ontario, thirty-four; Illinois, five; three each from Wisconsin, Kansas and Iowa; two each from Massachusetts, New York, and Pennsylvania, and one each from Colorado, Vermont, Nebraska, Missouri, Dakota, and Manitoba; the remaining eleven hundred and eighty-four being from Michigan.

Three hundred and fifty-five important operations have been performed during the year, and anæsthetics have been administered in 239 cases; 196 of these operations have been on the eye, thirty-five being for the extraction of hard cataract, and all, with one exception, have been the means of restoring sight to the blind. Enucleations have been performed fifteen times, and operations for the relief of squint in forty-six cases.

In the surgical clinics, one hundred and forty-eight operations have been performed, many of them major operations and of very important character. Numerous casts, splints, extensions, and other apparatus have also been applied before the classes or in the wards of the hospital.

In the department of diseases peculiar to women, seventeen important operations have been performed, twelve resulting in perfect success, two greatly improved, and three failures.

In all, ten have died. Many have come too late to receive benefit, and have been immediately dismissed. Of the remainder very many have been cured, many have been benefited, and many more have received treatment, gone to their homes, and never reported.

During the year thirteen children have been received under Act Number 138, of May, 1881, providing for the treatment of dependent and neglected children; others have been refused admission, owing to want of proper accommodations; and in this connection I deem it proper to state, that if this Act, one of the most charitable our Legislature in its wisdom has ever passed, providing for the medical care of the young at a time when disease most readily yields to treatment, is to be of any force, it is imperative that some proper provision be made for them outside the crowded wards of a general hospital.

The year has been one of prosperity to the University Hospital, due in a great measure to harmony among all and hard work by all. To Drs. Young and Turner, and to Mrs. De Motte and Mrs. Allerdice, much credit is due. They have discharged their duties faithfully towards the patients and the interests of the department. Great credit also is due the matrons, Mrs. Hurd and Mrs. Roseburgh. Their care of the wards and University property entrusted to their keeping has never been equaled, their bill of fare has been all that could be desired, and in catering to the whims and appetites of the sick they have been very successful.

Nor would I forget the students of the graduating class. They have cheerfully done an immense amount of work in the care of the sick assigned them, both by day and night. Without their aid it would have been impossible to have gotten along.

The capacity of the hospital has been strained to the utmost. With the exception of a few days during the holidays, from the day of opening up to the time of closing, the wards have been overcrowded all the time. All available room has been occupied, and patients were often glad to sleep in cots, stretchers, operating tables, chairs, or on the floor, rather than be turned away. If this department of this great University is to be allowed to grow, as it must and will, more room will be required. The large number of outdoor patients, and the great increase in attendance upon the clinics over previous years, must suggest some of its possibilities.

We feel thankful to you for the many improvements you have given us during the past year; but our needs are still many, and, in conclusion, I beg briefly to call your attention to a few most earnestly needed, asking them, not of or for ourselves, but in the name of sixteen hundred afflicted who will ask admittance and proper accommodations in the University Hospital next year.

The ventilation of the two main wards is very imperfect. The wards of a crowded hospital should above all things else be thoroughly ventilated, and special attention is called to this matter.

Professor Dunster's room for gynæcological work, always too small, has been almost unfitted for his work by the building of the eye ward opposite his window, thereby obstructing the light and seriously interfering with his work. A larger and well lighted room is needed for this growing clinic.

I would also recommend that a proper room be fitted up for the dispensing of medicines; that a dispensing clerk be appointed from either the medical or pharmacy classes, at no salary, who will fill one or more regular hours a day dispensing medicines, dressings, etc. I urge this as a matter of economy, fully believing that the amount saved in a year will more than pay the necessary initiatory expense.

Further, I would recommend for your consideration the heating by steam of the older portion of the hospital, occupied by the Resident Physician, Matrons, and private rooms for very sick patients. In these rooms seven stoves are in use about seven months of the year. Their exchange for steam-pipes I would consider a matter of safety, cleanliness, and economy.

The accommodations of the ward water-closets should be increased, and some method adopted for their ventilation.

Some provision should be made for the increasing number of help employed in buildings connected with the hospital. At present they are obliged to occupy the private rooms and beds in the wards, to the detriment oftentimes of the sick. I would suggest the advisability of adding another story to the kitchen and dining room, for their accommodation.

At present, in all the wards, only hard water can be obtained for the cleansing of wounds and toilet purposes. For many reasons this is not suitable. Cannot some means be employed by which the large quantity of rain water from our roofs might be utilized in the wards?

EDITORIAL BRIEFS.

We hope that all those who are indebted for this year's subscription will remit without delay. We desire to make some improvements at the beginning of next year and money will be needed.

We agree with our contemporary, the *Medical Herald*, in recommending Dr. Hayes, of the *American Journal of Medical Sciences* and *The Medical News*, as editor of the journal to be issued by the American Medical Association. Dr. Hayes' long and successful experience renders him most suitable for the position.

We regret exceedingly that *Walsh's Retrospect*, one of the most valuable of our exchanges, has been temporarily discontinued. This is due to the fact that all his time is needed by Dr. Walsh in attending to the duties of the vaccine farm of which he is superintendent. The journal will be resumed in January and extra numbers will be issued for those missed.

We are pained at hearing of the death of Dr. Edward Cox, of Battle Creek, Michigan. He died at his home September 19. Dr. Cox was born at Cambridge, Washington county, New York, in 1816. His parents removed three years later to Onondaga county, and here his boyhood was spent upon a farm. He graduated at the old Geneva Medical College in 1839, and in September of the same year located at Battle Creek, Michigan. He soon gained, and has ever since retained, a large practice. He was reguarded for more than forty years as one of the best surgeons in the State. In 1876 he represented his State at the International Medical Congress in Philadelphia, and in 1878, he was elected president of the Michigan State Medical Society. His presidential address on "Criminal Abortion" had large influence in calling the attention of the profession to the great prevalence of this crime. In January, 1881, he read before the Ann Arbor Medical and Surgical Society an interesting and valuable paper entitled, "The Pioneer Doctor," which was published in this journal.

To the city in which he lived his death will be a great loss. Not only will its citizens miss his kind and intelligent professional services, but also, his enthusiastic public spirit. He had been alderman, member of the board of education and mayor.

Personally Dr. Cox was a most agreeable companion. He always had a good stock of stories of the pioneer days, and his wit which was keen and intelligent was always free from malice. May the many young men who have studied with him take their preceptor's life as that of the true man and physician and endeavor to live as usefully as he did.

MEDICAL NEWS.

JAMES SPENCE, professor of surgery in the University of Edinburgh, is dead.

DR. ENGLEMAN, of St. Louis, has in press a work entitled "Labor in different Nations." This promises to be an interesting work.

A DR. HOFFMANN, of Basle, is endeavoring to reawaken the condurango treatment of cancer. Wonder if he has heard of our Dr. Bliss?

AN Italian physician treats phthisis with sulphuretted hydrogen. He administers it both by inhalation and by mouth, dissolved in water.

CHATTERGEE recommends for eczema an ointment made of two drachms of powdered animal charcoal and one ounce of freshly-prepared simple ointment.

THE New York life insurance reports show that one in eleven of the apparently healthy applicants for insurance has albuminuria. It is probable, however, that but one examination is made, and in many the condition may be temporary.

DR. RADCLIFFE (*Medical News*) found that the hypodermic injection of fifteen drops of cold water relieved the pain complained of in a case of hysteria accompanied by malarial symptoms. The water had a more soothing and lasting effect than morphine.

A HINDOO doctor claims to cure ague by the administration of burnt alum. He gives two doses of eight grains each, one three hours and the second one hour before the time for the chill. He states that it is without benefit when the paroxysms come on irregularly.

PROFESSOR PANAS, a French authority, prevents mercurial salivation by rubbing the gums ten or twelve times per day, during the use of this mercury, with the following powder: Powdered cinchona, three parts; powdered rhatany and powdered potassium chlorate, each one part.

DR. MOORE, deputy surgeon-general in Bombay, holds that opium smoking is beneficial, and not in any way injurious to Chinese and other Orientals in the manner in which they indulge it. It lessens muscular waste, and enables the half-starved Celestial to do a greater amount of work.

β. NAPHTHOL.—Kaposi (*Anzeiger der k. k. Gesellschaft*) thinks that the great therapeutic value of tar in the treatment of skin diseases is surpassed by that of *β*. naphthol, which chemists now prepare from tar. In scabies he has had most satisfactory results with this remedy. He uses an ointment made of fifteen parts of naphthol to one hundred parts of simple ointment.

THE report of House-Surgeon Heath, given on another page will be interesting to all friends of the University. It shows how rapidly the hospital is growing and what possibilities lie in the future. According to the report of their own House-Surgeon made to the Regents, the Homœopathic hospital furnished only one hundred and eighty-one cases, while the University hospital furnished one thousand three hundred and twenty-seven.

SCHAFF uses an iodoform paste in toothache due to an exposed nerve. His formula is as follows:

℞.	Iodoform powder, Kaolin	āā ℥ j.
	Carbolic acid	grs. viij.
	Oil of peppermint	gtts. x.
	Glycerine	q. s.

Triturate the iodoform, kaolin and oil of peppermint with enough glycerine to make a paste.

THE EFFECTS OF THE CONTINUED USE OF INFUSION OF POPPY.—Dr. Semtschenko (*Med. Obos.*) had the opportunity of examining a boy, three years of age, who had been given, on account of colic and unrest, ever since his first month of life, a concentrated infusion of poppy capsules. At first, the daily amount was one-half teaspoonful; later, four tablespoonfuls. The body was atrophic and rachitic. The child had no teeth and could not talk. The fontanelles were open; the pupils contracted; the saliva flowed constantly; there were sugar and albumen in the urine. When the parents refused to administer the poppy, restlessness and colicky pains resulted.

Dr. Kenoff (*Medical News*) favors the sulphate of zinc treatment of chorea. He details one case in which the following prescriptions were used:

℞.	Sulphate of zinc................................	ʒ j
	Fluid extract valerian......................	fl ℥ j
	Water..	fl ℥ viij.

M. S. A teaspoonful twice daily.

℞.	Aloes powdered................................	grs. xxx
	Extract nux vomica..........................	grs. viij
	Extract taraxacum............................	q. s.

Mix, and make thirty pills. S. One or two a bed time.

The second prescription was for the constipation, which accompanied the chorea. The dose of the first prescription was to be gradually increased, so that after the twelfth day the patient took ten grains of the sulphate of zinc at a dose or thirty grains a day. The pills were given so as to keep the bowels very loose. Improvement was rapid, so that after the twenty-seventh day the irregular movements of the arms and legs ceased. Dr. K. has had equal success with this treatment in other cases. It must be observed, however, we think, that some credit should be given the valerian as well as to the zinc sulphate.

CORRESPONDENCE.

FILLING UP A WOUND CAVITY WITH A SPONGE.

Boston, Massachusetts, September 28, 1882.

Editor of The Physician and Surgeon: The following case, which I saw at the New England Hospital through the kindness of Dr. Fanny Berlin, was very interesting to me as I had not seen anything like it before, and I thought it might be of equal interest to others.

Mrs. A. B., age thirty-eight, was admitted to the hospital on August 11, with a labial cyst. Patient's general health good.

August 12: Patient was etherized and the cyst dissected out, leaving a deep cavity, the hemmorrhage from which was controlled by a vaginal tampon and tinctura ferri chloridi.

August 13: Vaginal tampon removed and wound dressed with idoform.

August 20: A small piece of carbolized sponge, prepared by boiling several hours in a solution of carbolic acid, cone-shaped and about one and one-half inches long was introduced into the cavity with the hope that it will grow in and close it up. The sponge was covered with protective and held in place by adhesive plasters.

August 22: Protective removed and sponge to be kept clean by repeated washing with carbolized water.

September 5: Sponge seems to have grown fast to the walls of the cavity.

September 12: A thin layer of sponge coming away as a slough, separates from living tissue, the rest of the sponge seems to be filled with capillaries and covered with granulations.

M. E. PAGLESON.

TRANSLATIONS.

Translations from Russian Journals for THE PHYSICIAN AND SURGEON.
BY RALPH D'ARY, M. D., ROMEO, MICHIGAN.

TREATMENT OF CERVICAL ULCERATION.

BY N. F. TOLOCHINOF.

Gynecologists have long ago observed the connection between uterine catarrh and cervical ulceration, and the histological investigations of Ruge and Veit have fully established the fact that the ulcerations are a direct consequence of cervical catarrh, and that the cylindrical epithelium lining the cervical canal, not only spreads outwards, displacing the tesselated epithelium covering the vaginal surface of the cervix, but that it also sends off-shoots from the surface down into the areolar tissue of the mucous membrane, where they multiply, and in some places penetrate even to the muscular tissue. The mucous membrane at the same time becomes hyperplastic, swells out and forms folds and rugosities. It is possible that certain peculiarities of structure of the vaginal portion of the cervix predispose to the occurrence of this process. Thus H. Klotz, in his "Gynæcologische Studien" (1879) states that in some women mucous glandules exist in variable numbers on the vaginal surface of the cervix, whilst in others none are found beyond the external os. This circumstance explains what it would otherwise be difficult to understand, namely: Why an intense intra-cervical catarrh is occasionally so strictly confined to the inner surface, that the vaginal surface of the cervix remains normal as far as the external os.

In consequence of the above mentioned proliferation of the cylindrical epithelium, and co-existing changes in the tissue of the mucous membrane of the cervix, there arise various forms of simple non-malignant ulcerations on its outer and inner surfaces. There are simple, papillary, follicular, and varicose ulcerations of the cervix. These distinctions do possess some practical meaning, but as one and the same morbid process lies at the root of all these varieties, it would be more convenient to comprise them all under the collective appellation of catarrhal or adenoid ulceration of the cervix, in distinction from specific and malignant ulcerations, which have no connection with cervical catarrh.

When examining women suffering from catarrhal ulceration of the cervix, we frequently find other morbid conditions associated with it. Sometimes we find chronic inflammation and hyperæmia of the uterus, at other times endometritis; or inflammatory enlargement of one or both ovaries; or the remnants of a former inflammation of the serous coats or the pelvic cellular tissue, and not infrequently displacements of the uterus. It is necessary, therefore, to make a careful examination before beginning treatment. Pregnancy also may co-exist with ulceration of the cervix, and its diagnosis should always be arrived at as early as possible, for in this condition the application of caustics is contraindicated, on account of the risk of producing abortion. We have always followed the rule to refrain as much as possible from local treatment during pregnancy. Yet very much depends on the patient's individuality. I have seen several cases where leaches had been applied to the cervix during early pregnancy, and where the ulcer had repeatedly been cauterized, without interfering with pregnancy. In one patient the actual cautery was applied in the third month of gestation, yet she went till term and then gave birth to twins.

The above mentioned inflammatory processes of the uterus most frequently are the consequences of a prolonged existence of ulcerations of the cervix, but sometimes they precede the ulceration, which then follows as a consequence. There may at first exist a prolonged hyperæmia of the uterus, which brings on a chronic metritis and endometritis. The abundant secretion of the uterine cavity, still more irritates the already hyperæmic mucous membrane of the cervix. This induces hyperplasia of the cervix, and proliferation of the cylindrical epithelium, and finally ends in ulceration.

But, whatever be their etiology, we must never overlook the complications. Whilst chronic metritis and hyperæmia is in the acuter stages, we must not use caustics, for they would do positive harm. Anti-phlogistic treatment should first be used It would be proper to bleed the cervix by puncturing it, and then plug the vagina with wads of absorbent cotton slightly dipped in pure glycerine, or in a mixture of glycerine and iodoform (one part iodoform to ten of glycerine). If glandular cysts appear on the surface of the ulcer, they must also be punctured. Injections of tepid water are also useful, and if the bowels are inactive, laxatives should be prescribed; also bromide of potash, salicylate of soda, etc.

Not until the inflammatory symptoms decrease, the cervix becomes paler, and the uterus loses its excessive sensibility either altogether or to a considerable degree, may we begin to use the caustic applications. Since the ulcer itself in some measure acts as an irritant and therefore causes a continuance of the uterine hyperæmia, it would not be rational to wait for a complete cessation of the latter before proceeding to treat the ulcer. If there is found a chronic ovaritis or a parametric exudate, these conditions of course should be overcome before proceeding to local treatment. In these cases external counter irritants are most useful, such as blisters to the hypogastrium, especially in the inguinal region; warm compresses; painting with tincture iodine, etc.; also full baths or hip baths of mineral waters; internally tonics, with the iodides and bromides. In cases of descent or retroflexion of the uterus, these conditions should first be remedied by the introduction of suitable pessaries.

[Pessaries cannot be introduced indiscriminately in these conditions. Sometimes the uterus and ovary are so hyperesthetic that every attempt at reduction is accompanied by severe pain, which is continued by the continuance of the uterus in the now new and unwonted position (though it be the normal one). The parts evidently require *time*, in their hyperæmic and sensitive conditions to resume their normal position and relationship to each other. In some cases the pessary would come in contact with the ulcerated surface and by its pressure increase the ulceration, produce sloughing or cause great irritation. Such would invariably be the case were a cup pessary to be used. It is therefore necessary to devise a means that would at the same time lessen the engorged condition of the parts and *gradually* restore the uterus to its normal position. This can be accomplished by introducing at first a small iodoform and glycerine tampon, and placing it in such a position about the cervix as to correct as nearly as may be the position of the uterus, and then from time to time adding other tampons, packing the vagina until the uterus is gradually elevated. This may occupy several days, the patient keeping her bed and lying in the position most favorable to replacement. The iodoform will keep the tampon and secretions sweet, whilst the glycerine is the most efficient local hydragogue and antiphlogistic remedy known to me, and much more effective than bleeding. I have seen so much serum abstracted from the cervix and vagina by a single glycerine tampon, holding about two fluid drachms of glycerine, that the patient's bed-sheet was soaked in a circle of about two feet diameter. The relief was proportionate to the discharge. In my limited experience I do not remember ever to have seen a chronically ulcerated cervix without the coexistence of displacement, and in a few cases I ascribed the presence of the ulceration and hyperæmia simply to the mechanical chafing of the displaced cervix against the vaginal walls or perineum. There being in these cases no obstacle to an immediate replacement I did so and supported the uterus on a suitable pessary, applying a mild astringent to the ulcer and directing the patient to use mildly astringent vaginal injections. Under this simple treatment the ulcers healed in from seven to fourteen days. —D'ARY.]

Such preliminary treatment, especially in chronic metritis, often exerts a considerable influence on the ulceration; we have repeatedly seen the ulcer grow smaller and paler, and we can account for this circumstance on histological grounds. For the factors of the ulceration are not only proliferation of cylindrical epithelium, but also hyperæmia and hyperplasia of the mucous membrane. Antiphlogistic treatment lessens these conditions, and therefore partly removes one of the factors of ulceration. Sometimes we have seen so considerable an improvement of the ulcer that a final treatment with tincture iodine or a weak solution of nitrate of silver was sufficient to effect a cure. During treatment I have often been able to notice the effect of hyperæmia of the uterus on the ulcer, for under the influence of hyperæmia a cicatrizing ulcer will again increase in size, and its pale surface becomes granular and assumes a florid red color.

[This may be seen immediately before and after the menstrual period.—D'ARY.]

In the majority of cases a cure of cervical ulceration is not to be thought of without caustics, and these should be used at once when there is no inflammatory condition or no great hyperæmia of the uterus. If there are considerable vegetations on the surface of the ulcer, they should be clipped off with the curved scissors. This is best done by the aid of a Sims speculum, and the cervix may be drawn down by means of a tenaculum. The hemorrhage is slight and may be arrested by tampons. From personal experience I can especially recommend the following two caustics: Acetum pyrolignosum crudum and acidum chromicum concentratum vel crystallisatum. The first remedy—pyroligneous acid—is poured in through a cylindrical speculum and allowed to cover the cervix for about five minutes. Then it is removed and a small tampon is applied to the cervix. This should be removed in a few hours and warm water injections used, two or three times a day, until the next treatment. The crude pyroligneous acid should be applied every second or third day until the ulcer heals, or until the necessity for other remedies becomes apparent. This remedy is most beneficial in those cases where the cervix has a spongy appearance, where the ulcer is extensive and presents a smooth or granular surface, but without papillary or fungoid vegetations.

When the cervix is firm and solid and hypertrophied, the best remedy for the ulcer is chromic acid. I have never observed any toxic effects from this remedy, such as some gynecologists describe.

[P. F. Munde, although one of the boldest of the gynecologists of our day, nevertheless thus cautions the practitioner: "The strong caustics or escharotics, such as caustic potash, chloride of zinc, and chromic acid, are used only in malignant disease of the cervix or vagina, when it is desired to destroy the diseased tissue to its very core." . . . "It should be remembered that the toxic effects of two of these remedies, the chromic acid and the pernitrate of mercury, may not be confined to the local destruction of the diseased tissue: the chromium and the mercury may be absorbed and produce severe constitutional symptoms; the chromium collapse, vomiting, and purging; the mercury—salivation. Care should therefore be taken not to continue the application of these two agents too long or too thoroughly, and to remove all ulcers as soon as the cauterization is accomplished."—D'ARY.]

The mode of applying the acid is as follows: The cervix is exposed by means of a trivalve or cylindrical speculum. Its surface is cleansed from mucus, and the concentrated solution of chromic acid is applied to the ulcer by means of a glass rod; or, the whole surface of the ulcer is carefully touched with the crystals. A yellow crust forms immediately. After the application, the cervix is well washed with water, and dried with absorbent cotton. The patient should not exercise much for a few days, and should *daily* make two or three injections of warm water. It would also be well to inform her, that there is likely to follow a temporary increase of leucorrheal discharge. The chromic acid application should be repeated only after the lapse of ten to fourteen days, for the crust remains that length of time, being in this respect like the one following the actual cautery. The latter I used to employ in cases of considerable hypertrophy of the cervix, with uneven, bleeding, papillary ulcer. But since the introduction of Paquelin's thermocautery I have discarded the hot iron. The thermocautery is more portable, requires less preparation, and is therefore not so apt to frighten the patient. The heat radiated from the platinum tip is also much less, so that I find the use of protecting shield or wooden specula unnecessary with proper care and a steady hand. Deep and repeated thermocauterization may be made by means of a small Sims speculum alone. Protecting shields may be used if desired. The patient should be on her back, with thighs flexed on the abdomen and the vulva near the edge of the table and directed towards the light. Seizing the upper part of the anterior lip of the cervix with the tenaculum or tenaculum-forceps, the cervix is drawn towards the vulva by the operator's left hand, whilst the right one applies the heated tip once or twice to the previously cleansed ulcer. If a second application is made, a sponge, wet with cold water, should first be introduced up to the cervix, in order to cool the speculum and the parts. After cauterization the patient should keep her bed for awhile. Generally one application is sufficient for a cure.

When the use of strong caustics has lessened the area and cleansed the surface of the ulcer, weaker solutions of the same remedies may be continued, allowing them to act also on the mucous membrane of the (gaping) cervical canal. Among the most useful are solutions of nitrate of silver, 1:30, and crude pyroligneous acid, to be used as above directed. If a catarrh of the vagina exist, the nitrate of silver solution deserves the preference and should not be removed, but cotton tampons should be inserted into the vagina through the speculum and allowed to remain for a length of time, so that the solution absorbed by the cotton may exert a continuous influence on the vaginal mucous membrane. It should be repeated every third day. Using these methods of treatment, the most extensive ulceration may be healed in one or two months, even when complicated with chronic metritis and uterine hyperæmia. In those cases in which actual or thermocautery is not required, and dilatation of the uterine canal is unnecessary, the patients may be treated at the doctor's office.

[I generally use Goulard's Extract for simple erosions or ulcers with smooth or granular surface. This *immediately* unites with the albuminous exudation from the raw surface and coats it over with a thick white membrane, arresting the bleeding, and so firm that even the pressure of the elevator in moving the cervix does not remove it. In this way an immediate protection from chafing—in my opinion the most immediate cause of the erosion or ulceration—is afforded to the cervix, and healing progresses rapidly. I do not remember ever having had to repeat this application more than six times, before a healing-over was obtained. This method, however, has the disadvantage of leaving a permanent white scar, caused by the lead-albuminates inclosed in the resulting cicatrix. These products are only got rid of during the evolution and involution of the uterus attending gestation and parturition. If the surface of the ulcer is *very* uneven (papillary or fungoid) I first cleanse it in the manner above directed so as to leave a smoother cicatrix, but do not consider this preparation an absolute prerequisite to a cure, as the acetate of lead solution (Goulard's extract) seems to shrivel and destroy any small projections from the general surface of the ulcer.—D'ARY.]

When the ulceration is complicated with considerable endometritis it sometimes becomes necessary to dilate the uterine canal by means of laminaria tents or instrumental dilators. In these cases the ulcer does indeed diminish in size under the use of the caustics; its surface becomes smoother, but further improvement does not follow—the ulcer generally continues near the external os, and if left to itself it soon assumes its original aspect. The more or less abundant mucous secretion from the uterus continues as before in spite of the improvement in the ulcer. The catamenia in many cases are irregular, anticipating their proper time, and continuing too long and too abundant. The internal os gapes, as may be ascertained by introducing a sound. Under those circumstances the treatment of the uterine catarrh becomes an indispensable condition to the healing of the ulcer. According to the condition of the uterine mucous membrane various remedies will have to be employed, the discussion of which does not properly belong to the scope of this article. If there be laceration of the cervix this should be healed up by means of the usual operation, after which the healing of the ulcer will progress satisfactorily. —*Med. Vestnik.*

CONVALLARIA MAJALIS.

This beautiful little flower, commonly known as lily-of-the-valley, apart from its dainty appearance and delicious perfume, which have rendered it a universal favorite, has of late become very prominent, especially in Russia, as a cardiac remedy of so much efficiency, as to place it at once at the head of all similar remedies,—at least with those who have tried it; and we confidently predict that before long it will take the place of digitalis, leaving this justly esteemed drug to take the second place. The greatest therapeutist Russia has ever produced, Professor Botkin, has adopted it as one of his standard remedies in his clinic, and prescribes it almost daily, Physiological experiments with it, are still being carried on in Russia with all the thoroughness and attention to minutiæ characteristic of the Russian physiologist.

Dr. Troïtsky, for instance, has been experimenting carefully on sparrows, fowls and pups, and has positively established the fact that by introducing the extract of the drug into the alimentary canal either per rectum or per orem, it is impossible to cause death with the symptoms characteristic of the specific toxic effect of the plant, as revealed by postmortem changes. Whenever death took place it was only after *repeated* poisoning and from the exhaustion consequent on the emeto-catharsis caused by the drug. It is well to remember that these doses, in proportion to the weight of the animals, were of such magnitude as would never, under any circumstances be given in clinical practice, and that the author's special object was to cause death, in order to examine the animals postmortem. When, however, the drug was introduced directly into the circulation, by hypodermic injection, death was caused sometimes instantaneously, and the autopsy revealed the specific effects of the drug.

The author ascribes the difference of action between the hypodermic administration and that per rectum or per orem, chiefly to the emeto-cathartic effect of the drug in excessive doses, when given through the alimentary canal, which seems to eliminate the poison with sufficient promptness to preserve life, although at the expense of great exhaustion from the violent emeto-catharsis. Thus the drug acts, as it were, as its own safety-valve. Cumulative effects it is absolutely free from. Its excellent therapeutic qualities have been well described in the *Therapeutic Gazette*, for the past and current year, and in THE PHYSICIAN AND SURGEON for August, 1881, page 368, which articles it would pay every practitioner to read over. We have then in the fluid extracts convallariæ majalis florum a drug which is *free* from the dangers of digitalis whilst it produces all the identical decided therapeutic effects, and has moreover a wonderful soothing and calming effect, in those conditions of nervous irritabilitiy, so torturing to the patient and his attendants, which are the usual concomitants of organic cardiac disease, and which are so well described by Dr. Troïtsky in the October number, 1881, of the *Therapeutic Gazette*. The enterprising drug firm of Parke, Davis & Co., of Detroit, with their usual discrimination, have promptly recognized the merits of the remedy, and have prepared fluid extracts both of the flowers and roots, separately, thus bringing the remedy within every practitioner's reach. The above experiments, as well as my own experience, have all been with the extracts, infusions, and tinctures from the flower. But late clinical experiments of another Russian physician have proven that the herb and the root also possess the same influence on the heart and nervous system, though in a lesser degree. The root has in former times been used as a sternutatory and cathartic, in which latter respect it is both an uncertain and unpleasant remedy, and consequently was soon set aside. Its cardiac influence had evidently been entirely overlooked.

The object of the above remarks, is to call attention to this remedy, now in the market. With me it has long since taken the place of digitalis, and in cases of organic heart disease, when, in the latter stages, the symptoms are becoming urgent, and the patient anxiously begs for relief, the physician will appreciate a remedy that will relieve the patient signally and promptly, without creating in the physician's mind the dread of overdose and cumulative effect.—R. D'ARY.

STRANGULATED HERNIA.

Some time ago, there appeared in THE PHYSICIAN AND SURGEON, an account how a Russian physician saved his patient from the risks of the operation of dividing the stricture of strangulated hernia, after all efforts in taxis had failed, by passing a strong Faradic current through the protruding tumor of intestine. The latter promptly contracted and with the usual characteristic gurgling disappeared within the abdomen almost immediately after application of the current. This method of reduction, if universally successful (in reducible or recent cases) would be preferable to taxis. It should be tried and reported on, for its modus operandi is clear. The following expedient, as quoted by the *Vratch*, (copying from *Berl. Klin. Woch.*) leaves us in doubt as to *how* the effect is obtained by the means used:

Dr. Tinkelstein, of Roumania, writes: "As soon as possible after incarceration, and without waiting much time in trying taxis, one, two or more tablespoonfuls of pure ether should be poured on the incarcerated intestine, repeating this every fifteen minutes, and covering the hernia in the meanwhile with a compress of several folds of cloth. In order to lessen the burning sensation, instead of the pure ether a mixture may be used consisting of ether and oil of hyoscyamia. After three or four ablutions the hernia either returns of its own accord or may easily be reduced by taxis. In the course of eleven years the author has used this method in fifty-eight cases, of which fifty-four were successful. None of the herniæ were purely omental."

The subject is an important one, and every plausible means brought forward as a help in reducing an impracticable hernia deserves careful consideration and trial. But should an occasion present to try the above method, we should hardly feel inclined to strictly follow the author's directions; for the following considerations. The ether can act only in two ways: either as a refrigerant or carminative. If it is intended to act as a refrigerant only, it is applied in a most bungling and wasteful manner. The spray would act much more powerfully and economically, and there would be no sense in using the compresses. If it is intended to act as a carminative, for stimulating the hernia, and (if intestinal in whole or in part) increasing peristaltic motion, a small fold of cloth, soaked in a dram of ether and closely covered would be more effective. If alternate refrigeration and stimulation are intended, the ether spray and hot fomentations in alternation would be more decided in effect. Yet from the addition of oil of hyoscyamus, to "lessen the burning sensation" it is pretty clear that no stimulant or carminative effect is desired by the author. His success, therefore, would seem to have been due rather to the effect of the cold obtained in such an awkward and expensive way. The ether, of course, cannot exert any *specific* influence in hernia. —D'ARY.

WEIGHT OF FŒTUS.

After collation of considerable statistical material (nine hundred and thirty-one cases), Professor Cuzzi has come to the conclusion that the weight and length of the fœtus at term bear a direct relation to the average duration of the catamenial flow. In two hundred and fifty-four women the flow lasted from one to three days, and the average weight of the new-born child was three thousand one hundred and twenty-six grams (six pounds and two ounces), the length four hundred and ninety-one millimeters. In four hundred and eighty-three women the flow lasted from four to six days and the average weight of the child was three thousand two hundred and one grams (six and one-fourth pounds), the length four hundred and ninety-three millimeters. In one hundred and ninety-four women the flow lasted seven and more days, and the weight of the child averaged three thousand two hundred and ninety-one grams (six pounds and seven ounces) the length four hundred and ninety-five millimeters. Since the weight and length of the child bear a certain average relation to the diameters of the skull, the Professor thinks the above circumstance worthy of consideration in the prognosis of parturition in women with contracted pelves. —*Rivista clinica di Bologna.*—*Vratsh.*

ELASTIC LIGATURES IN OVARIOTOMY.

Dr. Kleberg, of Odessa, was the first to propose the elastic ligature for surgical operations, especially on the internal sexual organs. Unfortunately he died before his idea had time to become universally received. More detailed descriptions of his ligature are to be found only in fragmentary sketches of his writing, found after his death and published by Dr. Wagner in *Zeitschrift f. Chir.*, Band XV. Another Russian surgeon, Rein, proposed a similar ligature for Porro's operation, in *Annales de Gynécol.*, 1881.

The permanent elastic ligature of Kleberg seems destined to fulfill important indications in general and gynecological surgery, especially in operations on organs liable to dangerous parenchymatous hemorrhage, such as uterine tumors. Since the introduction of antisepsis, the pedicle in ovariotomies is generally left within the abdominal cavity. The same is done by Schrœder and Spencer Wells in amputation of uterine tumors and amputatio uteri supra-vaginatis. The majority of other surgeons, however, in these latter operations deem it necessary to treat the pedicle extra-abdominally, and allege the following two reasons for so doing: (1) It is difficult to prevent putrid decomposition of a large and juicy pedicle. (2) Dangerous hemorrhage often occurs in the pedicle.

The first reason does not need any refutation, for the strict observance of antiseptic precautions will prevent decomposition equally well, whether the pedicle be small or large.

The second point is answered in the remarkable article of Olshausen in *D. Zeitsch. f. Ch.*, Band XVI. He details illustrative cases, and proposes the following methods of ligature: (1) When the mioma is pediculated, one ligature *en masse* is sufficient, after producing a furrow for it either by means of the wire ecraseur or a clamp specially made for the purpose (Billroth, Spencer Wells). But if the pedicle is as thick as a finger or thicker, it is pierced in the usual manner and each half ligatured separately. After that it is left in the abdomen. (2) When the mioma is entirely subserous and movable, although attached to the uterus, not by a pedicle but by a broad base, it usually contains but very few vessels. The tumor is therefore enucleated, the vessels are tied separately, and the freshened surface is carefully covered with peritoneum by means of a few stitches. (3) In tumors with a very broad base Schrœder's method is sometimes applicable; that is, a rubber tube is applied from the center, and, if necessary, others may be tied round the uterus and even round the broad ligaments. This makes the operation quite bloodless. The base of the tumor is excised in a wedge-shaped manner, and a sufficient number of deep sutures is applied, reaching as deep as the bottom of the wedge-shaped wound, and then drawn very tight. The best material is antiseptic silk. If hemorrhage sets in after removal of the rubber tube, additional stitches are taken. But even in these cases O. proposes in the future occasionally to make use of the following (fourth) method. (4) It sometimes happens, in Schrœder's method, that the hemorrhage cannot be arrested by additional sutures. It may also happen that a very unfavorable attachment of the tumor (as when it extends to one of the broad ligaments) does not permit the wedge-shaped excision. In these desperate cases the elastic ligature *en masse* is applicable. For this purpose O. prefers a strong rubber cord, 2.5 to 4 millimeters in thickness. He carries it once or twice around the pedicle, ties a strong knot, and ties the ends together with silk. In order to guard against the possibility of the ligature slipping off, he sews it to the pedicle in two places, by means of silk. (Of course, everything used is antiseptically prepared.) Then *the pedicle with the rubber ligature is allowed to drop into the abdomen.* O. has used this method in two cases, and in both of them recovery took place without reaction, the rubber ligature remaining in the abdominal cavity without producing any irritation. Since the application of the ligature excludes the pedicle from the circulation, it is unnecessary to cover it with peritoneum. But the surface of the wound should be subjected to careful antiseptic cleansing.

This ligature may be applied in a similar manner in supravaginal hysterectomy. In this operation O. advises to pare off the mucous membrane of the divided cervix as far down as possible, and to sew up the cervical canal separately.

In vaginal extirpation of the uterus also the permanent elastic ligature is more effective in preventing hemorrhage and favoring separation of the ligated end of the pedicle. When the broad ligaments are included in the ligature, that is, when it is applied temporarily or permanently on the lower part of the body of the uterus or on the cervix; O. thinks it best to divide the broad ligaments, after first tying each ligament with a silk ligature, or else to divide them, layer by layer, tying the vessels separately as they are exposed.

From the above it would seem that thanks to the elastic ligature *en masse* the intra abdominal treatment of the pedicle would be proper in most, if not in all cases.

Dr. Kasprzik, assistant to Professor Hegar, in a late article in *Berl. Klin. Woch.*, Number XII, states that Professor H., although hitherto opposed to intra-abdominal treatment of the pedicle, now inclines more and more to this method. In one case, after removal of a uterine fibroma, the hemorrhage could not be controlled by any means whatever; then the elastic ligature was used and the pedicle dropped into the abdomen; the patient recovered. K.'s experiments on animals convinced him that the elastic ligature, when left permanently in the abdomen, produces no irritation. By means of it he ligated parts of the spleen, the omentum, the uterus, the liver, the kidneys; he removed the part ligated by means of the knife or Paquelin's thermocautery, and for the uterus, the omentum and the spleen the results were satisfactory; but in the cases of the liver and kidneys there followed secondary hemorrhage, either because the ligatures cut through too rapidly or were not tight enough. Hegar has devised a special forceps for tying the rubber ligature.—Anton Schmidt, of Moscow, in *Vratch.*

DELIRIAL PSYCHOSIS OR PRIMARY INSANITY.*

Every mental disease, like physical disease, is discerned by symptoms. These are various, corresponding in general to the normal mental peculiarities of the patients. Nevertheless, in psychiatry, these symptoms have severally been grouped together, as denoting disorders of the feelings, or of consciousness or memory, or the process of thought, both quantitatively and qualitatively, and finally of the impressionability and conduct of the patients. A case is diagnosed as belonging to the class which is indicated by the sum of the symptoms that first became apparent, and this disorder is considered the foundation of the disease. Thus delirial psychosis presents for its characteristic symptom a disordered quality of thought, so-called false ideas, delusions, or ideas of delirium. For this reason I prefer to name this disorder delirial psy-

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*Lecture by I. P. Pasternatsky. The complete title of the lecture is: Delirial Psychosis or Primary Insanity, Paranoia, Wahnsinn (Snell) Primäre Verrücktheit (Westphal).—Readers will observe that the author distinguishes between mania and delirial psychosis, giving paranoia as the synonym of the latter. Dunglison defines paranoia (or paranœa) as "delirium, dementia," a definition, which as it stands, would be rejected by alienists of the present day. Delirium now means a certain functional *irregularity* of the mind; dementia means *absence* of the mind (in various degrees). The definition "delirium, dementia" is therefore a contradiction in terms.—D'Aéry.

chosis (Wahnsinn), instead of primary insanity (primäre Verrücktheit).

I have elected to present the modern views on delirial psychosis in this lecture for the following three reasons:

(1) This mental disease is one of those which generally do not present any morbid anatomical changes in the hemispheres of the brain—the seat of our mental life. It will therefore be interesting, later on, to investigate the manner of development of the disease.

(2) This is one of the commonest forms of mental disease, and we are therefore most frequently called upon to treat it.

(3) Patients of this class are the most dangerous of all the insane, to themselves as well as to others; whilst they are guided in their actions by their false ideas, they frequently very shrewdly conceal them, in order the better to succeed in obtaining their end. In this way they delude vigilance and commit civil or criminal offences, insults, injuries, violence, arson, murder, suicide, etc.

Until lately psychiatry possessed only a symptomatology, and a very confused one, notwithstanding the work of Esquirol, the father of clinical psychiatry, whom amongst others the German school follows. He himself acknowledges that he contents himself with the description of clinical symptoms only, without attempt at classification and without adding anything subjective. Nowhere in his work does he express the idea that any one of the mental diseases observed is not a primary one. Consequently he does not doubt that delirium is a primary disorder. Griesinger, however, impatient to classify mental diseases, introduced his classifications, but with them also many artificial and doubtful theories. He was the first to advance the idea of the unity of mental disease, and that in psychiatrical clinics we have to do but with its successive forms or stages which are developed one after the other. According to his theory, melancholia was the first to appear; after that mania. These two he called the primary forms. From them sprang ambitious insanity, which in its turn yielded to general insanity, and finally dementia, etc. These latter he called the secondary, incurable forms of mental disease. Delirial psychosis by him was classed in the second, incurable group. The confusion in symptomatology was great. For instance, Gurslin distinguished over forty varieties of melancholia, which were described under the most perplexing names, such as "maniacal melancholia" and "melancholic mania." Everybody that was gloomy, or suffered from insomnia, fear, or precordial pain, or that refused to eat or showed suicidal tendencies was called a melancholic. If the patient was violent, he was called (as to this day) a maniac or an active melancholic. If he was too apathetic he was called a passive melancholic or imbecile. If he expressed ideas of his own greatness, he was called an ambitious lunatic (in Gresinger's sense). Further on we shall see, that in the various periods of delirial psychosis there is also a gloomy or happy state of mind, or precordial pain, or violence, or ideas of persecution or grandeur, refusal to take food, etc., and yet we should make a great mistake in diagnosing the case as one of mania or melancholia. In the majority of instances the case would be one of delirial psychosis. Just as in our time patients of this class form the largest contingent in our asylums, so they did before; but in former times this psychosis was mistaken for other, and much rarer mental diseases, whose course is an entirely different one. But this difference was not heeded.

With reference to the modern history of delirial psychosis, I shall name only those authors which have been most useful. In 1860, the famous French alienist, Morel, taught that hysteria and hypochondria may change into delirium of persecution and greatness. Snell, in 1865, under the name of Wahnsinn, described a disease manifesting itself by delirium of persecution and greatness, diagnosing it from melancholia by the heightened sense of self-importance of the patients, and from mania by the absence of rapid change of ideas. In 1868, Sander described delirial psychosis under the name originäre Verrücktheit (congenital insanity). It is that form of delirium* which is found among nervous sufferers, who from infancy display various nervous symptoms, such as spasms, delirium, etc., in every more or less serious disease. Such patients like solitude, indulge in meditations, are easily affected in their emotions; love to attract attention, and later develop delusions of persecution and greatness. But the honor of having given the first and most excellent description of delirium undoubtedly belongs to Westphal, who, in 1876, clearly showed that this disease, to which he had given the name primäre Verrücktheit (primary insanity), may continue for years, without ending in imbecility, that it is never developed from melancholia, and that the delirium of observation (suspicion), persecution, and greatness, originates in the patients' general and lively, though indefinite hysterical and hypochondrical sensations.

The above sketch shows that the modern view of delirium, has been established but lately, and that it arises not as a consequence of a preceding disease of the mind, but that its foundation and nucleus, as it were, are the "ideas of delirium," upon which depend the patient's conduct and the other symptoms of the disease. First appears the delirium of observation (suspicion); this gives way to the delirium of persecution and greatness. But before going further in examining the nature of the disease, I will endeavor to give a clinical picture of it, in its several forms.

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*For the sake of brevity, I shall use the term delirium for delirial psychosis.—D'ARY.

The patients are generally neuropaths, that is, persons liable to diseases of the nervous system. As early as the time of pubescence, they become abnormally irritable, pensive, moody, capricious and subject to unprovoked explosions of anger. They experience various hysterical or hypochondriacal sensations, which, notwithstanding their intensity, are very vague. In endeavoring to account for his sensations the patient develops the idea that his constitution has some peculiarities distinguishing him from other people. He believes that others notice his peculiarities, that people take a special interest in him, wherever he may chance to be, whether on the street, at the theatre, or any other place. Every chance word, or glance, or motion of another person is interpreted by the patient as having a direct reference to himself; in everything he sees a secret meaning. Not only persons and their actions, but even inanimate things, such as journals, newspapers, etc., acquire in his eyes a certain symbolical meaning, in everything he finds hints and references to himself. Let some one place a lamp on his writing table. Though it is done in the usual manner and routine of household order, yet he imagines it was placed there with either especial carelessness or mysteriousness, and with some secret intention. Let his wife or child pass the room, or remain absent—this also acquires especial meaning, and in his estimation was done on somebody's instigation, and so forth, ad infinitum. In a word, the patient eagerly observes everything and behind every fact he looks for something supplementary, attaching to the merest trifles the meaning of a symbol, and looking for its explanation. Hence he is always lost in doubting conjectures. This is the first degree of delirium, the delirium of observation. Whilst in this condition, the patient of course finds many reasons for irritability, sorrow, and satisfaction, and it must be remembered that both his sorrow or joy are only the consequence of the thoughts engendered by his interpretations of surrounding circumstances. Morel rightly asked: Are we to blame for it that a sad thought darkens our disposition, or a joyous one enlivens it? Such a patient frequently does not eat and drink as much as he ought to, but it is important to notice that he gives correct answers when interrogated, that he may be able rationally to sustain conversation, so long as it has no reference to himself, and that the only noticeable peculiarity may be his conduct and relation to his surroundings.

The hypochondriacal or hysterical sensations of the patient continue in all their intensity; he thinks himself annoyed by constant hints and excessive attentions; he asks himself: "Why do they take such an interest in me? Who, or what am I?" He dwells on this question, and finds various hypotheses and explanations. He remembers, perhaps, that at one time his mother, or some other relative, kept some papers in a box, and he now infers that was done in order to hide them from him. Or, perhaps, his mother had some time given him a cross to wear,* warning him not to lose it. This circumstance now acquires in his mind a secret meaning of portentous import. It may, perhaps, afford a solution of the mysterious interest people take in him. He asks himself, "Is there not some mystery connected with my birth?" He now remembers that himself, and others also (generally his mother), have noticed his resemblance to the picture of some famous person, and that some fortune-teller had prophesied to him that in time he would become a great man. These reminiscences the patient now interprets to suit himself. There is, indeed, a great mystery connected with his birth; his parents are only foster-parents; the name he bears is not really his name; he is probably the natural son of this or that celebrity, or, perhaps, his lawful son, and should, therefore, share in the honors and wealth of his famous father. He is not recognized as a member of the imperial family, or as the son of this or that count or banker, because he has some bodily imperfection, of which he is cognizant by his pathological sensations. Now everything is clear to him. He attracts attention, and is observed in the streets and elsewhere because people guess who he really is. He is envied, and certain persons believe him dangerous to themselves. They wish, therefore, to be rid of him, even at the cost of his life. Every glance or chance word, a motion of the hand of a passer-by in the street—all these are threats against the patient. They wish to poison him, and actually had placed poison in his food. In a word, he is persecuted.

But it is important to observe, that as a symptom diagnostic from melancholia, that the patient is not persecuted because he is lower or viler than others, because he is a sinner, or has committed a grievous crime (as the melancholic believes of himself), but because he is a great person and dangerous to others who wish to get rid of him. This is the second stage of delirium—the delirium of persecution. The patient being gloomy and apprehensive, his disease is now frequently mistaken for melancholia. We have seen that the delirium of persecution is intimately connected with the delirium of greatness, the third stage. The patient has enemies, but he has also sympathizing friends, who in various ways and by means of various hints, perhaps in the before mentioned journals and papers, assure him of their fidelity and readiness to help him under any circumstances. Of course, the patient now desires liberty at any cost in order to fulfill his high missions. Now begins the most difficult time, both for the patient and his friends. The patient uses every possible means to obtain his liberty, bribery, flattery, threats, insults. And when these means fail, these Alexanders the Great, emperors, millionaires, etc., frequently *kill* their supposed enemies in the most cunning manner. I have now in my ward a patient of this class, of athletic proportions and strength, who has already broken down several doors, and shattered many window panes and sashes.

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*Every orthodox Russian wears a cross on his bosom, next the skin, and suspended by a cord or chain round the neck.—D'Arcy.

[TO BE CONTINUED].

HYDROCELE.

Drs. Cattaneo and Lampugnani propose the following method for the radical cure of hydrocele. After removal of the fluid by the aspirator, a solution of chloral in an equal amount of cold water is injected; the dose varying according to the age of the patient, and the size of the cavity from two to eight grammes. After the operation cold compresses are applied in order to lessen the pain. A new exudation soon follows, which however, begins to be absorbed on the fourth day. If the absorption proceeds too slowly, another aspiration and injection is made. They have treated seventeen cases in this manner, without a single relapse. The treatment lasted on the average twenty days. In one case they had to repeat the whole operation, in another they had to make another aspiration.—*Gazz. med. Ital. Lomb.*—*Vratsh.*

Translations from German Journals for THE PHYSICIAN AND SURGEON.

BY VICTOR C. VAUGHAN, M. D.

THE DIPHTHERITIC HOSPITAL AT CHARCOW.

A history of this hospital is given in *Medic. Westnik.* From 1867 to 1876 diphtheria was observed at Charcow only as a sporadic disease, but nothwithstanding exceptionally good hygienic surroundings, the mortality was great. Since 1878 it has been epidemic and has decimated the juvenile population. Recognizing the fact that isolation for the children of the poor classes was impossible, a hospital exclusively devoted to the treatment of this disease was erected by the city and placed under the charge of Professor Laschkewitsch. From November 13, 1879, to December, 31, 1880, six hundred and eighty-nine patients were treated here. The disease was most prevalent in November; least, in June. The mortality was thirty per cent., and was least in November and greatest in March and July. The mortality was in indirect proportion to the age. After the fifteenth year, a fatal case was the exception. Besides the constant use of chlorine gas, the hospital and all its contents was thoroughly disinfected every three or four months with sulphurous acid gas. The clothes of the children were also disinfected with sulphur.

CASES OF CRYPTOGENETIC PYÆMIA AND SEPTICÆMIA.

Dr. Bockmann (*Tidsskr. f. prakt. Med.*) observed two cases of spontaneous pyæmia, in which the point of infection could not be discovered. The cases occurred in private practice, and in persons having apparently good hygienic surroundings. B. thinks, however, that there must have been some abrasion of the skin, and the slight wound had healed before the general symptoms appeared. His first case was that of a servant girl, aged 24. B. saw her first January 17. She then had a low fever which had continued five days. There was pain in the throat, and both tonsils were red and swollen. The uvula and gums were œdematous. The glands at the angle of the jaw were enlarged and tender. By the local application of ice the swelling disappeared, but the fever continued; temperature, 39.4. The tongue and throat were dry. January 24, patient complained of pain in the right shoulder and both knees, but there was no swelling in these places. Sleep was unrefreshing and broken. January 28, a cough with bloody sputa appeared. Auscultation revealed slight rales at the base of the lungs. The right knee was swollen and contained an exudate. January 31, redness, swelling and pain appeared in the right sterno-clavicular articulation. The fever continued; temperature, 39.5. The patient became somnolent, but without loss of consciousness. The pulse beat from 100 to 120 per minute and became vibratile. Respiration was frequent. The cough remained unchanged, and the sputa bloody. Examination of the heart showed only slight blowing at the base. The stupor continued and slight delirium supervened. The patient died February 2. Section was not permitted, but puncture of the knee and sterno-clavicular joints showed the presence of pus.

The fever in this case resembled that of typhus, and the sputa was from metastatic abscesses in the lungs. The presence of pus in the joints proved the existence of pyæmia.

The second case was that of a man, aged 40, who was first seen by B. May 4. For some days he had had low fever, cough, and pain in the muscles of the extremities. May 5, pain was most marked in the shoulder and axilla. No swelling could be detected. May 10, diffuse swelling could be detected in fossa infraspinata of the left side. May 13, this swelling showed fluctuation. May 15, there was pain in the left leg, on the inner side of which a hard tumor, the size of a walnut, could be detected. May 19, a similar enlargement appeared under the fifth metatarsal bone of the right foot. The temperature varied from 38.5° to 39.5°. May 21, the various tumors showed fluctuation, and puncture allowed of the escape of a large amount of pus. May 24, there was marked infiltration on the anterior face of the left thigh. June 6, incision of the thigh showed a large accumulation of pus. Carbolic acid was injected into the abscesses, but without effect, and had to be desisted from on account of symptoms of carbolic acid poisoning. The temperature remained unchanged, and the pulse beat 120 per minute. The patient could take no food and often had light delirium. The abscesses increased in number and soon covered the greater part of the body. The patient died September 7, after four months of suffering. Section showed marked fatty degeneration of the heart and liver and hypostatic pneumonia. The other internal organs were normal, and no internal abscesses could be found.

In this case the temperature had varied from 38.4° to 39.6°, and often it remained stationary for days. The multiple abscesses showed the presence of pyæmia. The point of infection could not be discovered, unless it was from a slight abrasion on the right hand, which, however, had entirely disappeared before B. saw the case.

Dr. Pel (*Nederl. Weekbl.*) divides the cases of cryptogenetic pyæmia into two classes. The first embraces those in which the place of infection is not recognized during life, but is discovered on postmortem examination. The second embraces those in which the place of infection is not discovered either during life or after death. He reports three cases. The first is interesting, as it terminated in recovery. A photographer, aged seventeen, had had for some time an otorrhœa. He was taken with fever, accompanied by chilly sensations. Soon he complained of pain in the head and neck. He lost his appetite, and had a cough, but raised nothing. The tongue was coated, especially in the middle, but moist. The throat was red and swollen, as was also the conjunctiva bulbi of the right eye. Behind the uvula could be seen a patch of purulent mucous exudate. The otorrhœa was in the left ear, and was due to caries of the mastoid process with the formation of a fistula. There was no retention of pus. Fluid injected into the fistula passed out through the ear. The fever resembled a quotidian intermittent. On the 26th day the patient complained of pain in the right wrist and left shoulder. Both these joints, as well as the knee, were swollen. Injection of carbolic acid alleviated the pain and removed the swelling. But later the swelling returned. Pleuritis of the right side and periphlebitis of the left crural vein appeared. After this, gradual improvement, ending in complete recovery, followed.

Dr. Lunger (*Wien. Med. Jahrb.*) reports the two following cases of cryptogenetic septicæmia observed in Professor Ducheck's clinic:

(1) A day laborer, aged fifty-one, hitherto healthy, had complained for a week of headache, weariness, and slight pain in the left knee. Soon after admission, he fell unconscious upon the floor. The left knee was painful on pressure, but normal in appearance. Feeble rales could be heard over both

lungs. There was some gurgling in the ileo-cæcal region, and the spleen was enlarged. The temperature varied from 37.8° to 40.6°. The spleen increased in size, and the patient died of collapse on the fourth day after admission. The urine was free from albumen, and there was no diarrhœa.

Section showed acute enlargement of the liver, collections of pus in the left ankle and knee joints, purulent infiltration of the psoas muscles, and the peritoneal cavity containing a large amount of purulent exudate.

(2) A strongly built man, aged twenty-two, had had for five days before admission chills, with shortness of breadth, headache and pain in the left side of the breast. The tongue was somewhat coated, and the pharyngeal mucous membrane reddened. The left tonsil was swollen and covered with yellowish matter. Examination of the lungs showed slight rales. The spleen was enlarged. There was marked icterus. The liver was enlarged and dull, and the urine contained a small amount of albumen aud bile pigments. The sputa was viscid and colored red. Later there was redness and swelling of the right hand, with pain on pressure. Temperature varied from 37.0° to 40.6°. Death followed on the fifteen day after the first chill.

Section showed no change in the brain. The pharynx was swollen and red, and the tonsils enlarged. In the left tonsil, as the point of infection was an abscess, the size of a bean, and from which the matter had infiltrated around the large vessels of the left side of the neck. In the left pleural cavity was five hundred grams of a yellowish, serous fluid, containing flecks of fibrin. The left lung was free; the anterior surface of its lower lobe was covered with a purulent, fibrous exudate. The parenchyma was rich in blood and the lower lobe contained a little air. The posterior walls and edges of the lung contained small collections, from the size of a pea to that of a nut, of pus. The right pleural cavity contained three hundred grams of purulent fluid. The liver was enlarged and fatty. The spleen was increased in volume to four times its normal size, and contained much blood, and was soft. Incision of the swelling on the hand allowed of the escape of a large amount of pus.

BORACIC ACID.

Dr. Kurz (*Memorabillien*) uses a salve of five parts of boracic acid to from ten to fifteen parts of vaselin with success in eczema, impetigo, prurigo, and psoriasis. Lupus exfoliativus was not benefited by the drug after prolonged use, but was improved by salicylic acid. In two cases of severe gonorrhœa an injection of a one per cent. solution of boracic acid effected a cure in eight days.

COTO BARK.

Dr. Rohrer, of Zurich (*Schweiz Corr.-Bl.*), reports one hundred and eighty cases in which he has used coto bark or its preparations. Of these, one hundred and sixty-two were cases of diarrhœa, fifteen of typhoid fever, and three of hyperhidrosis. Dr. R. is especially enthusiastic in his praise of coto in diarrhœa in children. Of the tincture of coto bark he orders for children from four to ten, and for adults from fifteen to thirty drops, hourly given in sweetened water. Of the powder he orders for children from ten to thirty, and for adults from fifty to sixty, centigrammes, to be divided into ten powders; one powder hourly. The dose of cotoin for children is from five to fifteen, for adults, thirty centigrammes daily. In cholera infantum he combines the cotoin generally with powdered musk; in adults with colicky pains with the simple or camphorated tincture of opium in the proportion of from one to two grammes to thirty grammes, of which one teaspoonful in water is to be taken four times per day.

Dr. R. thinks coto especially valuable in infantile diseases on account of the absence of any narcotic effect. The cases of typhoid fever treated with coto did well. In two of the cases of hyperhidrosis the effect seemed to be good, in the other, only moderate.

A CASE OF SO-CALLED IDIOPATHIC ASCITES.

Dr. Debroise (*Jahrb. f. Kinderheilk.*) saw a girl, aged thirteen, who was very anæmic, but whose lungs he pronounced sound, with marked ascites. The girl had no discoverable disease of the liver, spleen or heart. The urine was free from albumen. Diuretic treatment had no effect upon the dropsy, and finally on account of dangerous dyspnœa, punctio abdominis was resorted to, and ten liters of serum escaped. After the puncture, the ascites returned to some extent, but gradually disappeared as the child gained strength. Two years later the girl was entirely well.

PERFORATION OF THE COMMON CAROTID FROM A RETRO-PHARYNGEAL ABSCESS.

Dr. Szekeres (*Pester Med. Chir. Presse*) reports a case of this accident from the Budapest Charity hospital. A boy, aged four, was taken with pneumonia, died on the sixth day after admission, after having thrown up, and passed at stool, a large amount of blood. Section showed perforation of the left common carotid from a retropharyngeal abscess. From this abscess there was a pus cavity as large as a crow quill to an abscess in the tonsil.

SALICYLATE OF SODIUM IN NERVOUS HEADACHES.

Dr. Oehlschläger (*Allg. Med. Centr. Ztg.*) reports two cases of long-standing nervous headache relieved by this drug. The first was that of an old lady who had suffered for years. The second was that of an old man who had fallen on the back of his head in his sixteenth year, and who had been almost a constant sufferer since. Quinine, arsenic, caffein, valerianate of zinc, etc., had been tried in this case without any benefit. Potassium bromide brought temporary relief, but the salicylate seemed to produce a permanent cure. Dr. O. uses the drug in the form of natrum salicylicum dialysatum, and in doses of one gram. It is without value in the nervous headache due to anæmia.

HOT BATHS IN PUERPERAL CONVULSIONS.

Dr. Brieus (*Arch. f. Gynäkol.*) reports the following cases:

(1) A primipara, aged thirty-four, after having had sixteen convulsions in one day, was brought to the clinic. During one of the convulsions, she threw herself from the bed and dislocated her right shoulder. After the convulsions she was totally unconscious. Œdema was general, but especially marked on the inferior extremities and the face. The urine contained a large amount of albumen. Pregnancy had advanced to the ninth month. The fœtus was still alive. Within five hours after admission to the hospital and after four more convulsions, two grams of chloral was given by the rectum. On the next day, the patient was unconscious, but had no convulsions. The dislocation was reduced. Some days later consciousness returned, and the convulsions reappeared. On the whole, her condition was unchanged. On the fourth day, the patient was given a hot bath and then surrounded with warm packing. There was abundant perspiration followed by sleep, and the œdema and albuminuria rapidly disappeared. A hot bath was given daily, and after the fourth the œdema had wholly disappeared and the amount of albumen in the urine had greatly diminished. After ten days the patient was dismissed from the hospital. There was no return of the convulsions, and after four weeks the woman was delivered of a healthy child.

(2) A lady, thirty-one years of age, in the sixth month of pregnancy, showed marked œdema of the face and the whole body, especially of the genitals. The urine was small in amount and highly albuminous. On the second day after admission, she had convulsions followed by loss of consciousness. She was given three grams of chloral by the rectum and a hot bath (35° Reaumur) of half-hour duration, then surrounded with warm packing. On the following days the baths were repeated. The œdema rapidly subsided and wholly disappeared after the

fourth day. The urine became less albuminous, and after six weeks the woman was delivered of a living child.

(3) A primipara, aged nineteen, at the time of delivery, had marked œdema, albuminuria and two convulsions, followed by stupor. Three grams of chloral was given. After four hours there was another convulsion. Birth was effected by instruments. In an hour there was another convulsion. Two grams of chloral were now given, and the woman placed in a hot bath, followed by warm packing. There was no further accident. Four baths in all were given. The œdema and albuminuria disappeared, and the puerperal period passed without disturbance.

(4) A primipara, twenty-seven years of age, with marked œdema and albuminuria, had a violent convulsion as the head was born. Two grams of chloral was given without effect. There was a second convulsion, when the hot bath was used. Afterwards there was no accident. On the next day two baths were given. The œdema disappeared, and on the ninth day the urine was free from albumen. There was slight puerperal endometritis, and tardy involution of the uterus.

(5) A primipara, aged twenty-seven, was brought to the hospital in a deep stupor after repeated convulsions. Delivery was effected under narcosis. Then a hot bath was given, but a paroxysm followed. The patient remained in a stupor, and despite hot baths and chloral, died the next day. Section showed Bright's disease in the second stage, with the kidneys doubled in size. There was marked œdema of the brain, and slight of the lungs. There was some cirrhosis of the liver. The uterus had contracted normally.

(6) A primipara, aged twenty, had a delivery without accident, October 11. Afterwards parametritis developed, and November 1 she complained of pain in the eyes and head. The lower extremities became œdematous and amaurosis appeared. The urine was highly albuminous. On November 3 she had a convulsion. She was now given a hot bath, followed by warm packing. The baths were repeated, and by November 28 she had wholly recovered.

ABDOMINAL TYPHUS IN CHILDREN.

Dr. Röth (*Arch. f. Kinderheilk.*) reports his observations on eighty-two cases of this disease in children under fifteen years of age, twenty-nine of these were in the children's hospital, and fifty-three at the poly-clinic at Heidelberg. Under one year of age, there was one child, nine from two to five years, thirty from six to ten, and forty-two from eleven to fifteen. Of the eighty-two cases, eight ended fatally, and two others died from relapses. In a minority of the cases, the disease was ushered in by a chill, after which the temperature rapidly increased. In the majority the incubation stage lasted from three to seven days, then followed, as a rule, febris continua remittens, which lasted from six to twenty-five days, with evening rise of temperature to from 39.5° to 40°. Finally there was febris intermittens, lasting from four to five days. The spleen was enlarged in sixty-two cases, but there was no enlargement discoverable in some of the most severe cases. The roseola appeared between the sixth and eleventh day and was tolerably constant. In some it was very slight and transient continuing scarcely a day. In others it failed wholly. In forty-three cases its presence was doubtful; in thirty-seven it was unmistakably present. In forty-six, bronchial catarrh was a complication; in seven, bronchitis and broncho-pneumonia. There were eight relapses, five slight, and three severe, of the latter, two died.

CHANGES IN THE BRAIN IN FEBRILE DISEASES.

Dr. Blaschko (*Virchow's Archiv.*) has examined, with negative results, the brains of women dying of puerperal fever, and of animals in whom septicæmia had been produced. Only in one instance did he find emboli in the veins and capillaries of the brain. He expresses a doubt as to the exclusively parasitic nature of septicæmia.

EFFECT OF CHRONIC LEAD POISONING ON THE OFFSPRING.

—Dr. Rennert (*Arch. f. Gynæl.*) has examined seventy-nine children from eleven families, in all of which the father, and in several the mother also, has suffered from chronic lead poisoning.

First Family.—Father and mother both severely poisoned; eight children, of these two (aged three months and three years) have died of colic. These two had large and angular heads. Of the six living children all have large, angular skulls, with especially marked parietal and frontal protuberances. All, save the youngest, aged three months, have suffered with colic. One is quite stupid. Postmortem examination of one, who had died, showed a large amount of serum in the softened cortex of the brain. Brain was very large, heavy and hard. The cavities were filled with serum, but were not abnormally enlarged.

Second Family.—Both parents poisoned with lead; ten births, one pair of twins; of these one has died. The ten living children are all macrocephalic, and frequently suffer from crampy pains.

Third Family.—The father seriously, and the mother only slightly poisoned; five children, all with large heads; three have died, one from colic and two at birth. The two living have rickets, and one has suffered from lead poisoning.

Fourth Family.—Father seriously, and mother slightly, affected; ten children; seven have died with colic. The three living ones are aged nineteen, fourteen and eleven years, and all are macrocephalic and suffer from colic. The oldest son has atrophic lameness of the left arm.

Fifth Family.—Both parents poisoned; eleven children, all dead, and all, save one which was born dead, died with colicky pains. All had large, angular heads.

Sixth Family.—Father, a drunkard, and suffering from chronic lead poisoning; the mother, sound. Four children; two, who were macrocephalic, died from colic. One of the living suffers from colic.

Seventh Family.—Father seriously, and mother slightly, poisoned. Four children; two dead, one of which was macrocephalic. The two living frequently suffer with colic.

Eighth Family.—Father poisoned with lead; mother, sound. Eight children; three, all macrocephalic, died with cramps. Of the five living, only one has a normal head.

Ninth Family.—Father, poisoned; mother, sound. Three children. The oldest is living, but has a large head. The others, who had normal heads, are dead.

Tenth Family.—Father, slightly poisoned; mother, sound. Eight children, only one macrocephalic.

Eleventh Family.—Seven children from two marriages; four born dead, two from each wife. One died of apoplexy, and one of the living is macrocephalic.

From two families, in which both father and mother were seriously affected, there were nineteen children; of these seventeen suffered with cramping, and thirteen died; seventeen had large heads; one, macrocephalic, is living, and one, with normal head, was born dead.

In four families, in which the father was seriously and the mother slightly affected, there were twenty-seven children; seventeen, macrocephalic; eight suffered from cramping, and of these two died; nine were not troubled with cramping.

In five families, in which the mother was sound, there were thirty-three children, ten macrocephalic, seventeen suffered from cramping; twelve died.

RESINA COPAIBÆ.

An apothecary, Paquet, has prepared capsules of the pure resin of copaiba to be used in gonorrhœa in the place of balsam of copaiba. In this way the unpleasant effects of the balsam, as the fœtid breath and various cutaneous eruptions, are avoided. The remedy is to be used only in those cases in which there are no symptoms of acute inflammation. Each capsule contains an amount of the resin equivalent to from 0.90 to 1.00 gram of the balsam. From ten to twelve capsules may be given daily. It is best, as a rule, to begin with a small dose and gradually increase the amount, and to continue its use for some time after all symptoms of the disease have disappeared.

TREATMENT OF CONJUNCTIVIAL DIPHTHERIA.

Dr. Vossius (*Klin. Mon.-Bl.*) treated a child in whom diphtheria had extended from the throat to the eye. The lids were greatly swollen and an ulcer had formed on the cornea. A two per cent. solution of carbolic acid was tried without effect, and the same was true of a solution of boracic acid. Applications of ice were kept on the greater part of the time. Afterwards a four per cent. solution of salicylic acid in glycerine was penciled on the part and dropped into the eye every half hour. The applications of ice were used at night. Under this treatment the improvement was rapid. The ulcer did not extend, and healed without leaving any visible cloudiness. The salicylic acid solution was used nine days.

THE INHALATION OF OXYGEN.

Hayem (*Gaz. de Par.*) states that the inhalation of from 40 to 90 liters of oxygen daily increases the appetite, slightly elevates the temperature, hastens the circulation and increases the weight of the body. The formation of hematoblasts and red corpuscles is increased, the latter as much as from five to ten per cent. This effect, however, is only temporary, and the proportion soon returns to its former value. In some cases, there is slight intoxication and trembling in the extremities.

The inhalation of oxygen is of value in chlorosis, especially when complicated with stomachic disturbances. The increased power of assimilation is evidenced by the augmentation of the daily amount of urea to as much as forty grams. The inhalation of oxygen will also be of value in continued emesis or painful dyspepsia without chronic gastritis. It recommends itself also in the vomiting of pregnancy and in uremia.

A HITHERTO UNDESCRIBED DISEASE OF INFANTS.

Dr. Riga (*Movimento Med. Chir.*), has observed a pernicious disease of the mucous membrane of the child's mouth. It consists of the formation of a false membrane between the end of the tongue and the frænum. The membrane is round and small. Children, in whose mouths this appears, lose strength rapidly, refuse to nurse and ninety per cent. of them die. The disease has been observed only in summer and is always associated with intestinal catarrh. It lasts from two to eight weeks. It is found in children only during the first dentition, it is not contaigious, but appears to be infectious. In the Terra di Lavoro the disease has been endemic for sixty or seventy years. During the past decade there has been no diphtheria in that region. No scientific study of the disease or membrane has yet been made.

THE EFFECT OF MASTURBATION ON THE EYES.

Professor Cohn (*Arch. f. Ahkde.*) reports a series of cases in which he has observed photopsia in young persons (male and female) addicted to masturbation. Apparently there is nothing wrong with the eyes. The retina and nerve are normal in appearance. The pupil responds normally to light; the sight is good, and the distinction of colors perfect. The symptoms are subjective and consist of flashes of light, stars, flecks and points of brilliancy dance in the field of vision. In most of the patients these symptoms disappear in the dark or when the eyes are closed. All the patients were chronic masturbators. Colored glasses benefitted some, but were without value to others. Abstaining from masturbation and the proper indulgence in normal coitus effected a complete cure.

He has also noticed obstinate hyperæmia of the connective tissue of the eyes in those addicted to this vice.

Finally he has observed clonic spasm of the muscles of the lid due to masturbation.

SELECTED ABSTRACTS.

SURGERY AND THE DOCTRINE OF EVOLUTION.

C. Pittfield Mitchell, M. R. C. S., of Orange, New Jersey, contributes to the *New York Medical Journal and Obstetrical Review*, for September, 1882, an essay, entitled, "An Evolution Aspect of the Healing of Wounds, with Deductions as to Treatment." As the author tells us in a prefatory statement, this is an application of the Spencerian doctrine of evolution to some of the phenomena of reparative action. The essay sets out with a classificaiion of methods of repair from the standpoint adopted. Next, the grounds for this classification are given, and incidentally we are introduced to an important conception —arguing that, since whatever is profitable to an organism, in the way of structural or functional variation, will be taken advantage of by heredity and natural selection, the functional changes naturally involved in recovery from disease will come within the sphere of their operations. With the zymotic diseases, for instance, natural selection may segregate, and heredity may fix, both the physiological peculiarity which insures immunity, and the physiological activities which establish the *status quo* when the disease has been contracted. Entering upon the immediate topic of the paper, the phenomena elicited by an incised wound, as the occlusion of arteries, the organization of plastic lymph, the development of granulations, and the physiological adjustment of the tissues to new external conditions, are viewed as non-specific functions of the tissues injured superadded to their specific functions. Deducing the evolution of these phenomena from the known action of physical forces, the shares taken by natural selection and sexual selection as factors are then dwelt upon. Special attention is directed to the protective value of the plastic lymph forming on the surfaces of wounds, and the evolutional steps are described by which this function is acquired. Passing from the structural, the evolution of certain more strictly functional adaptations is next considered. Knowing, in general terms, the atmospheric and other forces to which wounded tissues in the past must have been exposed, the corresponding accommodations of function are inferred. Thus, the general conclusion is drawn that "the molecular constitution of wounded tissues should fit them, on the average, for contact with a mean atmosphere, and certain moderate deviations from this mean." It is pointed out that, although traumatic injuries are not necessary accompaniments of life, they are of such frequency among the lower animals and man as to give validity to this conclusion. An absence of organized adjustments of function to the remaining forces commonly incident upon wounds is inferred from the inconstancy, diversity, and nature of these forces. Such deductions are shown to harmonize with experience, and certain principles of treatment for healthy wounds are presented as corollaries. The gist of them is, that, so far as the exigencies of practice will permit, wounds should be shielded from the incidence of any force to which we may know *a priori* there cannot exist an organized adaptation. A normal atmosphere should be maintained, and cleanliness should be absolute at every step. Believing that the plasma exuding from the severed tissues is, by "its chemical and mechanical properties, and contact with environing forces during evolutionary time, specially fitted to protect the less stable cells which lie underneath," much importance is attached to the preservation of its integrity. "Wounds should remain open until the surfaces have become glazed, and all interfering applications should be scrupulously withheld." Finally, a verification of these inferences is found in the facts disclosed by Dr. McVail, in his paper in the *British Medical Journal* for July 23, 1882, on the results of "Ten Years' Surgery in Kilmarnock Infirmary." The method of dressing employed (dry-dressing) essentially fulfilled the above mentioned theoretical requirements, and gave, on comparative analysis, the "best general results covering a lengthened period of time that have ever been recorded in the history of British hospital surgery;" and the last group of cases reported—numbering four hundred and twenty-one, including ninety operations, twenty-three major amputations, forty-five injuries, fifty-two abscesses, and seven compound fractures—showed not a single fatality from any cause.

POTASH PERMANGANATE IN CASES OF SNAKE-BITE.

The venom for these experiments was obtained by inciting the animals to bite cotton-wool. It was then diluted with a small quantity of distilled water, and injected by means of a Pravaz syringe into the veins or subcutaneous tissues of dogs. In the former case symptoms of poisoning appeared, and death took place after a longer or shorter time. When the virus was injected subcutaneously, extensive abscesses and mortification resulted. If, however, 2–3 cubic centimetres of a one per cent. solution of potash permanganate were injected immediately after the administration of the venom, all symptoms of poisoning remained absent, and if any such had already appeared (such as dyspnœa, irregular pulse, dilatation of pupils), they soon vanished completely. In thirty experiments the potash salt only failed twice, and the animals in these cases were young, weak and badly nourished. In place of phlegmonous suppuration after the subcutaneous injections there was merely a transitory non-purulent infiltration (Lacerda, *La France Medicale*).—*Edinburgh Medical and Surgical Journal.*

THE PROLONGED USE OF CHLOROFORM IN INSTRUMENTAL LABOR.

On August 6, 1878, I was sent for to a case of labor at full time, when I found the os dilating and vertex presenting; I also found antero-posterior deformity. The promontory of the sacrum projected a good deal forward, but the brim was not narrower than I have frequently delivered a living child through at full time, with the long forceps. After some hours, I found the os fully dilated, labor-pains strong, and the head becoming impacted. I thereupon applied the long forceps, and endeavored to extract under chloroform, but ineffectually. I then called in a neighboring practitioner, who also thought he could deliver with the long forceps, but failed. I then preformed craniotomy, using Simpson's perforator freely, and breaking up the cerebral substance, and afterwards using craniotomy forceps, crotchet, etc., but all to no purpose. The base of the skull was so much ossified and so large, that we could not move it, though we applied the long forceps over it, and again endeavored to extract, injecting tepid water, etc.

We then called in a third doctor, who also failed, after repeated trials. We finally arranged to perform Cæsarean section if another endeavor to deliver by the forceps failed. The patient was then fully anæsthetised, and held firmly by my two brethren and a nurse, while I again applied the forceps and made forcible traction, when I was delighted to feel the head yield, and effect the delivery of a very large male child.

As soon as the chloroform sleep passed off, we gave a pill, with two grains of opium, and repeated it daily for a few days, syringing with a weak tepid antiseptic injection. The patient made an excellent recovery, without a single alarming symptom.

What I desire to point out in reference to this case is, that for over six hours (from 4 A. M. to 10:30 A. M.) the patient was almost continuously under the influence of chloroform; that she had no excessive post partum hemorrhage, no vomiting, no nervous shock; and that her recovery was almost as rapid, and fully as perfect, as in the most favorable case of natural labor. These good results I attribute largely to the free and full and prolonged administration of chloroform. I fear that ether would have a greater tendency to favor post partum hemorrhage, and induce vomiting. I have, however, never used ether during my obstetric operations, but chloroform I have repeatedly used in my midwifery practice, and sometimes in prolonged cases, and have never found the slightest ill results to follow its use.—Dr. Olpherts in *British Medical Journal.*

MEDICAL RUBBING.

Dr. Little made some remarks and gave some demonstrations on this subject before the section of medicine at the late meeting of the British Medical Association. We extract the following from his remarks:

Medical rubbing, when skilfully done, is one of the most effective and powerful remedies that we possess. If it is done by ignorant or untrained hands, it is capable of doing immense injury.

Medical rubbing can restore the wasted muscle, can unloose the stiffened joint, can promote the enfeebled circulation, can bring back sensation to the benumbed limb, can soothe the irritated nerves, and can promote digestion and assimilation by causing healthy waste and excretion. The principles of medical rubbing are simple and easily understood, so that any medical practitioner can train a suitable person in a few lessons.

The rubber should be strong and healthy, bright and cheerful, with plenty of energy and intelligence. A stupid lout cannot make a good rubber.

The hands of the rubber should not be too small nor too large. They should not be bony nor clammy, nor horny nor doughy. They should be firm, warm, supple.

The position of the rubber should always be that of perfect ease. No one can rub if they are craning over a patient, or in a cramped or constrained position, The patient must always be placed in such a posture that the rubber is perfectly at his ease. If this is not done the rubber soon tires, uses unnecessary force; hurts the skin, bruises the muscles, and does more harm than good. The position of the patient should also be one of perfect ease. No muscle should ever be rubbed except it is soft, and no joint except the skin over it is relaxed. The skill of the rubber is greatly aided by the science of physicians in placing the muscles and joints in the most suitable position. The patient should be lying down on a low bed or couch, and the rubber sitting close to or standing by him.

The limbs should always be rubbed from the extremities upwards and the trunk from above downwards.—*Britsh Medical Journal.*

THE BIRTH OF AN ELEPHANT.

Dr. Gustavus E. Sussdorff, of New York, contributes to the July number of the *New York Medical Journal and Obstetrical Review* an account of the process of parturition as it took place in the case of the elephant "Queen" last February. The period of gestation was five hundred and ninety-seven days. There was no noticeable enlargement of the abdomen, until it suddenly became quite prominent the day before labor began. This enlargement did not subside with the expulsion of the fœtus and after-birth, but continued four days longer. During the latter months the mammæ became swollen, and soon filled with serous milk. These were the only signs of pregnancy to be seen. The labor began at three P. M., February 2. At this time the mammæ were greatly distended with milk, which came away continuously in drops. The vagina now began to drop down and swell. In a short time thick mucus began to come from the vagina in long ropy strings, and almost poured out just before delivery. From three until eight o'clock "Queen" was evidently uneasy, as she constantly moved her body from side to side, but did not seem to suffer pain, and quietly munched some hay up to the very moment of delivery. At 8:10 the young elephant was born, the head presenting, completely enveloped by the unbroken membranes. The head and part of the body rested between the hind legs of the mother, and touched the ground. Without waiting a moment the mother ruptured the membranes with her hind feet, when the young one rolled out, on its back. The membranes were no sooner liberated than they quickly returned into the vagina. The umbilical cord had not been seen at all, having probably been torn away by the descent of the fœtus. The mother now quickly turned to the young, and, on seeing it, began to roar and bellow furiously, which she continued for ten minutes. As soon as she saw the baby she also at once placed one fore foot on it and rolled it several times, as one does a lemon under the palm of the hand, the bellowing and roaring continuing. In a moment or two more, she placed her abdomen upon a short post in the ground, to which she was chained, standing almost upon her head, and grasping the post with her trunk, thus forcing the abdomen with great power against the post. "Queen" remained in that position about ten minutes; then became quiet, and, while playing with her young, took some food. Nothing indicative of after pains could be recognized after this, and in one hour and thirty minutes the placenta was expelled With it came about two quarts of clotted blood. There was no hemorrhage either from the uterus or from the umbilicus of the calf. The duration of labor was five hours and ten minutes. The calf, a female, weighed two hundred and forty-five pounds, and stood just three feet high. It began nursing one hour and forty minutes after birth. It had two middle upper teeth. The umbilical cord entered the abdomen about three inches anterior to the vagina, and had been detached very close to the abdomen, as none was visble at that point, the canal being open and large enough to admit a good-sized finger for half an inch. Dr. Sussdorff remarks that there are several very interesting and instructive points in this history. First, the period of gestation is evidently not affected by the change of climate and captivity, lasting about nineteen and a half months. The time of labor is short, and evidently there is not much pain. The sagacity of the animal is remarkable, as shown by the manner in which she ruptured the membranes, the means she took to excite respiration by rolling the young, and finally, her effort to express the placenta from the uterus. He then describes the placenta and the fetal membranes, comparing them with those described by Owen, and adds a summary of various observations that have been made of the milk of the elephant as compared with that of other animals, giving drawings which show its microscopical characters in comparison with those of cow's milk.

RESULTS OF MARRIAGES WITH IDIOTS.

Dr. Berkham, in the *Zeit. für Psych.*, makes some interesting observations as to the capabilities of microcephalic and other idiots to propagate their species. A semi-idiotic man has been married for some years to a healthy woman; there is no family. A healthy man, married to an idiotic wife, has had three children by her; two of them are idiots. These cases support Vogt's view—that while female idiots may bear children, the males are very frequently incapable of begetting them. Marriages are very rare between male half-cretins and healthy women, but are not uncommon between healthy men and semi-cretinous females who may happen to own a little property. The author has never seen the progeny of these marriages arrive at maturity; if not still-born, the children usually die during childhood.—*Dublin Journal Medical Sciences.*

LABOR SCENES AMONG RED INDIANS.

This is the subject of an interesting communication by Dr. Engelmann, of Saint Louis, in the *Saint Louis Courier of Medicine* for May 1882. It details some very curious practices, that are further made interesting by some curiously rude illustrations drawn by an Indian artist. The kneeling position appears to be that adopted most commonly by the Indian squaws. The chief assistance given seems to be grasping the abdomen in various ways, varied in bad cases by the incantations of the medicine man. The management of the placenta, in case it is slow to be expelled, consists in firm traction on the cord, aided by abdominal pressure and kneading. If these efforts fail, the woman is raised from the reclining to the erect position, and the uterine globe is firmly pressed and kneaded, whilst traction is continued on the cord. They seem to know of no method of treatment capable of delivering the placenta in cases of hourglass contraction. During the puerperal period the practice differs considerably among the various tribes of Indians. In some of them the woman is kept on her feet the greater part of the day, aided, when walking, with a staff, the object being to facilitate the flow of the lochia. The Indians know that a certain amount of blood should escape, and think that if the patient lay down it would accumulate in the abdominal cavity and cause death. Among other tribes the puerperal patient is wrapped in blankets and placed on a bed near the fire if the weather is cool, and kept in this closely wrapped condition. Puerperal fever and eclampsia, so far as Dr. Field could find out, were very rare among these people. Puerperal deaths appear also to be uncommon. The Indians tie the cord with one ligature, and cut it about a foot from the child's body. A strange oxytocic remedy is mentioned in the paper. In a case of slow labor the patient was brought out on the plain, and a noted chief of the clan, mounted on his swiftest steed, with all his war paints and equipments, charged down upon her full speed, turning aside only at the last moment, when the patient expected to be pierced through the body and trampled under foot. The alarm caused by this proceeding is stated to have caused the immediate expulsion of the child. On the first menstruation of a maiden the Indians hold a ceremonious festival to congratulate the maiden and her parents on the dawn of womanhood. Some other curious customs are mentioned. The female stands to urinate and sits during defecation, whilst the male sits on his haunches to urinate and stands during defecation. The male mounts his horse from the right side, the female from the left. Among the Modocs and Klamoths the husband refrains from eating all flesh or game for five days after the birth of a child; the mother does the same for ten days. At each menstrual period the woman refrains from flesh for five days, and is more or less isolated from the male portion of the family. Certain tribes demand that the father take to the woods and absent himself for some days from the family lodge and encampment, and if it be the first child he hides himself until the child is a week old. It is satisfactory to know that only the young men are subjected to this treatment. At the end of this time, or as soon as the father is able, he calls all his friends together and has a feast of boil·d dog, provided the child be a male.—*Edinburgh Medical and Surgical Journal.*

DIGITAL EXPLORATION OF THE BLADDER.

Sir Henry Thompson, in reporting four additional cases in which he has with good results explored the bladder with the finger through incision from the perinæum, observes, in *The Lancet* of May 6th, 1882:

"It is only during the last few years that I have gradually realized the fact that it is poosible, in not a few cases, to explore through a small perineal incision the whole, or nearly the whole, of the internal surface of the bladder with the index finger. A necessary condition, of course, is that the bladder should be empty; and in that condition it is—as is sometimes perhaps not sufficiently recognized—no longer a cavity, as represented in diagrams, but a mere cul-de-sac at the end of the urethra. Taking it for granted that the incisions to be made—which involve only the urethra with the tissues between it and the surface, and not at all the bladder and prostate—enable the operator to place the last joint of his left index finger within the neck and thus to draw it somewhat towards him, the exploration may be accomplished in the following manner: Maintaining his finger at the spot described, the operator should stand up at the foot of table, a little to the left of the patient, (who is in the lithotomy position), so as to make firm pressure with the right hand above the pubes, the resistance of the abdominal muscles being overcome by the influence of ether. He may now easily feel, unless the patient be very stout, the opposite side of the bladder coming into contact with the tip of his finger; and by concerted movements of supra-pubic pressure by the right hand, with slight movements of the left index in the bladder, almost every portion of the internal coat of the latter may be brought under examination. If the patient be thin, the proceeding is easy; it becomes less so in proportion to the depth of perineum and thickness of the supra-pubic coverings, both of which are increased by fat. In the latter case aid may be rendered by an assistant, who makes firm pressure with both his hands, but the operator should also employ, if he can, the concerted movements described.

"Now, I think, it will be admitted that, however effective is the ordinary examination of the bladder by the sound and by rectal examination, and it amply suffices for the great majority of cases, there are still a few obscure examples of disease, respecting which, even in the most experienced hands, examination does not reveal facts which it is of the utmost importance to ascertain. This being so, the question arises: Can digital exploration of the bladder be performed without much risk to the patient? I unhesitatingly answer in the affirmative. The results of external urethrotomy, on a grooved staff previously introduced, an operation largely performed by Professor Syme about thirty years ago—results which were jealously watched and closely scrutinized—go far to warrant this reply. But although the external incisions in his proceeding were almost identical in situation with those I shall advise for digital exploration, the internal incision in Syme's operation was made not only in tissues very often largely diseased, but was far more extensive than that required for the purpose now in view. To this evidence I may add that I have myself opened the urethra from the perineum many times for various purposes beside that of extracting calculus; and I do not recollect a single fatal result. Fifteen cases of external division of stricture on a staff are included among them. Next, the method of operating in order to reach the bladder from the perineum demands a few words. I think there is little ground for doubting that a vertical median incision—that is, in the line of the raphe—introduces the finger by the shortest and most direct route. The prominence formed by the operator's bended knuckles. while using his index finger as an explorer, lies equidistant between the nates, and is firmly pressed on the perineum in a straight line from the external surface towards the center of the bladder. Any line right or left of the median must of necessity lead obliquely to the center, and be a longer line, because it commences at a point on the external surface more distant from the neck of the bladder than the raphe of the perineum. Accordingly, I always adopt the central incision, using a median grooved staff, and a long, straight, narrow-bladed knife, with the back blunt to the point. Having placed the left index finger in the rectum the knife may be introduced, edge upwards, about three-quarters of an inch above the anus, with or without a small preliminary incision of the skin (I prefer the former), until the point reaches the staff about the apex of the prostate gland, where it divides the urethra for half an inch or so, and is then drawn out, cutting upward a little in the act, but so as to avoid any material division of the bulb. The left index-finger is now removed from the rectum, and following by the groove of the staff, slowly passes through the neck of the bladder as the staff is withdrawn, when exploration is made, as described above. A moderate division of the bulb when made in the middle line is not to be feared as a cause of hemorrhage, while an incision involving the side of the bulb, and nearer to the entry of its artery, is more prone to bleed freely. Hence, some have preferred another mode of incision in order to avoid it—namely, one crescentic form, with the convexity upwards, just above the anus; the dissection to be carried transversely to the apex of the prostate, and opening the urethra there, as before mentioned."—*Dublin Journal of Medical Science.*

SPOONS IN THE INTESTINE.

Mr. Samuel Kohn in the *Medical Record*, New York, July 22, relates a remarkable case in which a patient suffering from melancholia, with intercurrent attacks of mania, was removed from the asylum with symptoms of peritonitis; vomiting; pulse 120; temperature 102.5° Fahrenheit; a pale anxious countenance, etc., with general abdominal pain, but special tenderness over the right iliac region. Such attacks recurred and subsided alternately over a period of five weeks, partial obstruction occuring four times. The patient said she was "rotten inside" and could not possibly live. One day the mother of the patient came to the doctor's office and said that, that morning, in the fæces of the patient, which she had regularly examined, she had found a long, hard, spindle-shaped mass of fæces, encased in glairy mucus. Examination revealed the edges of several spoons protruding from the mass. Softening and breaking it up she found it to contain three teaspoons, which the doctor found to have every appearance of having lain lengthways in the intestine for a long time, the concavity of one fitting into the convexity of another. All abdominal symptoms disappeared. The patient declared that she swallowed them all in one day with the intention of thus ending her existence.—*The Lancet.*

TREATMENT OF ACUTE DYSENTERY BY ACONITE.

Dr. Owen has tried ipecacuanha in dysentery, and finds that the best dose is 25 grains. Even with this dose, however, vomiting will occur, and for this and other reasons he holds that aconite is preferable. He gives one minim of the tincture every quarter of an hour for two hours and one minim every hour afterwards. The sooner the patient is put under treatment the better. It is essential that the medicine should be taken regularly every hour and at night. Should the patient sleep, he should be instructed to make up for lost time by taking a dose for every hour he has slept. The diet is just as important in these as in any other dysentery cases. His cases got nothing but rice and milk, and a few milk only. If the last two points mentioned above be neglected, success in this treatment cannot be looked for.

Among the cases described, the duration of the aconite treatment varied from 12¾ days to 7 hours, and the average was 4.05 days.

When the disease was cured, the aconite was discontinued, and the patients were then put on iron, which was continued for about three days. This gave an average number of days under treatment in the diarrhœa ward of 7.57. (*Indian Medical Gazette, April* 1, 1882.)—*Practitioner.*

THE FORMATION OF FIBRIN.

The explanation of blood-coagulation and of the production of fibrin has long been an interesting problem for physiologists. Yet, even at this date, and in spite of the elaborate researches of A. Schmidt and others, all the phenomena connected therewith are not wholly, or quite satisfactorily, accounted for. Any trustworthy observations bearing upon the subject are, therefore, important; hence we need no excuse for directing attention to the remarkable "Note on the formation of Fibrin," just published by Mrs. Ernest Hart in the July number of the *Quarterly Journal of Microscopical Science.* Mrs. Hart's investigations were made in 1879, in M. Ranvier's laboratory, while engaged in attempting to corroborate Dr. Norris's observations on his "third corpuscle." By means of the latter observer's method of "isolation"—that is, by an ingenious use of the force of capillary attraction, then by fixing the corpuscles to the slide and cover-glass by osmic acid fumes, and by subsequent staining with a concentrated alcoholic solution of nitrate of rosanilin—slightly-colored, discoid corpuscles, similar to those described by Dr. Norris, could be easily demonstrated. Mrs. Hart, however, observed that these corpuscles varied in shape, according to the time during which the blood was allowed to remain undisturbed before being fixed by the osmic acid vapor. When the process was conducted as rapidly as possible, the circular form of the Norris corpuscle was retained; but if the glass surfaces were kept together a moment, the corpuscles lost their round outline, and became more or less pyriform; after a still longer interval, they showed bifurcating and ramifying branches—seemingly produced at the expense of their substance; and if the time were still more prolonged, the "pale" corpuscles were seen to have quite disappeared—nothing but fibrinous threads, connected with granules, remaining. The latter, indeed, were considered by Mrs. Hart to be all that was left of the corpuscular substance, and to be identical with the granules described by M. Ranvier as the centers of fibrin formation. In short, Mrs. Hart looks upon these corpuscles of Dr. Norris as the source of the fibrin formed in drawn blood; clear camera lucida drawings of the appearances seen are given in her paper, and the drawings certainly appear to bear out the conclusions arrived at, for the growth of the fibrin-like, fibrillar network, or its production, from the lighter-stained corpuscles can be indubitably traced in the representations. Most observers have apportioned a considerable *rôle* in the making of fibrin to the large colorless, white or pale corpuscles of the blood; these are, however, not alluded to in the present communication. The behavior of the uncolored or slightly-colored discs of Norris are alone treated of; and they are everywhere spoken of in the paper as "pale" corpuscles. It might be suggested that in view of the generally recognized signification of the term, its application to the uncolored discs is hardly advisable. Mrs. Hart's research is undoubtedly of great interest, and we hope that her observations will be repeated and extended. In conclusion, we cannot help referring to the extremely modest way in which she has brought forward her views, and to the truly scientific spirit which she has displayed in her work. Her last sentences are: "In publishing this note now, I am sensible of the incompleteness of the observations, but I am led to believe that they may be useful in the present state of this subject, as furnishing material for suggestion and further inquiry. The drawings were all made by my own hand by the camera lucida, and with the utmost desire to ensure fidelity of outline and correctness of color—my object being to elucidate facts, not to enforce a theory."—*Dublin Journal of Medical Science.*

NOTE ON THE PRESENCE OF INDICAN IN THE URINE.

By ROBERT SAUNDBY, M. D., EDINBURGH; M. R. C. P., LONDON;
Assistant-Physician to the General Hospital, Birmingham.

In the *Medical Times and Gazette* for May 1, 1880, and again on February 4 of the present year, I gave some details respecting the very remarkable cases of a brother and sister, W. H. E. and B. E. The brother has an enormous spleen, and, on the first occasion I saw him, was suffering from a definite attack of paroxysmal hæmoglobinuria. His urine was examined by Dr. MacMunn, who said the dark color was due to a mixture of methæmoglobin and urobilin. I was informed that his urine, though not so dark, was always darker than normal, and I assumed that the dark color was due to the presence of methæmoglobin.

The sister has not had, so far as I have been able to ascertain, a definite attack of paroxysmal hæmoglobinuria, but I have attended her in a slight febrile attack, in which her spleen became a little enlarged, and her urine was darker than normal, but very much to my surprise, on examining some of her urine, which is also persistently dark, some little time after her recovery from this attack, I could find no albumen, and the spectroscope showed no trace of hæmoglobin. I sent a specimen of it to Dr. MacMunn, who confirmed this, but stated that it contained three coloring matters—urobilin, urerythrin, and indigo-red.

As I had had that urine some days in my consulting-room, I made arrangements for Dr. MacMunn to receive fresh samples of the urine of each case, as I began to suspect that the persistent dark pigment was not methæmoglobin, as I had supposed. He reported that the urine of W. H. E. was clear dark brown, like strong tea, and deposited thick red urates; specific gravity 1024; acid; giving a cloud on boiling, which cleared only partially on adding acetic acid. He found that its color was due to indigo-red, indican (which could be split up into indigo-blue), urobilin, urerythrin, and a trace of a pigment resembling cruentin. The urine of B. E. was brownish-yellow, depositing a mucous cloud; acid; specific gravity 1012; contained no albumen; the color being due to urobilin and indican.

Neither urine contained any blood pigment or bile pigment. These two cases are paradoxical in so many ways that this discovery only adds one more difficulty. Indican in the urine is usually seen in connection with some affection of the intestine, especially incarcerated hernia. It is held to be derived from indol, a product of putrefaction in the intestine, and it is easy to see how a hernia may mechanically favor its production on this hypothesis. But in these cases there is certainly no habitual constipation; moreover, it cannot be doubted that constipation *per se* is unable to give rise to this phenomenon. The important fact with respect to these cases is, that the persistent dark color of the urine, which I regarded as indicating a constant loss of hæmoglobin, is now shown to be due to the presence of these derivatives of indol.—*Medical Times and Gazette.*

CURIOUS HISTORY OF AN ANATOMICAL SPECIMEN.

We venture to think that few of our readers know the romantic history of one of the specimens in the remarkable collection of preparations illustrating the anatomy of the ear in the possession of the College of Physicians of Philadelphia. Professor Joseph Hyrtl, who prepared the specimens (and from whom they were bought), had such relations with scientific men and dealers that he was able to procure many unusual specimens, sometimes by purchase of great rarities not to be "ordered" as wanted; sometimes by exchange; sometimes as presents. The history of some of these is found in a little pamphlet he published in 1873. As an example of the first, the skull of the gorilla cost one thousand francs, besides the labor, afterwards bestowed on the preparation of the ear-bones and labyrinth. As examples of the last are the specimens from the elephant, rhinoceros, hippopotamus and others presented to him by DeBlainville. That from the hippopotamus has, however, a very peculiar and amusing history connected with it. No living hippopotamus had been brought to Europe since the time of the Romans, and the anatomy of its viscera was entirely unknown, when the French government sent M. Arnould d'Abbadie as Minister to the King of Schoa (Abyssinia). The Academy, before he left, expressed an earnest wish that he would send them the viscera of a young hippopotamus in Gannal's solution. The minister obtained the coveted prize with unexpected and most creditable tact. On his arrival he found his sable Majesty laid up with articular rheumatism, and was soon besought to lend his services, as in the Orient all the Franks pass for physicians. M. d'Abbadie answered resolutely, "Assuredly." "Bring me the remedy," said the King; "I would give my crown to be well again." "Nothing is easier; the remedy is to be found in your own country; it is hippopotamus fat." "Fetch a hippopotamus," cried the King in haste to his attendants. "Not so fast, your Majesty, not so fast; it must be the fat of a female, and of a female that is pregnant," said the wily embassador. Diplomacy clearly has its place even in science. Huntsmen were immediately sent out in all directions, and soon returned in triumph. D'Abbadie rubbed the fat on the joints of the King and cured him! History saith not anything as to his fee, but she does record the fact that the fœtus was sent to the *Jardin des Plantes.* There De Blainville allowed Hyrtl to remove one of the temporal bones, and so the College of Physicians has the labyrinth of the hippopotamus of Schoa.—*Philadelphia Medical News.*

ANTISEPTIC DUSTING POWDER.

Dr. Klamann recommends the following powder as a means of healing and of preventing intertrigo in infants:

℞.	Magnes. ust. subt. pulv	5 grammes.
	Talci veneti pulv	20 grammes.
	Acidi Salicyl	0.2 grammes.
	(Mist. oleos. balsam	10 minims).

To this may be added alumen ustum when greater astringency is required, and the salicylic acid may be replaced by boracic acid. Dr. Klamann uses this in intertrigo, eczema, and erythema, and finds it to act rapidly and certainly. He has also applied it with good effect in eczema capitis, and to raw surfaces produced by blisters. (*Deutsche Med. Zeitung*, No. 48, 1881.)—*Practitioner.*

THE

PHYSICIAN AND SURGEON

A MONTHLY MAGAZINE,

DEVOTED TO MEDICAL AND SURGICAL SCIENCE.

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ORIGINAL ARTICLES.

NOTES OF MY FIRST AND LAST CONFINEMENTS.

BY D. C. LEWIS, M. D., BROOKLYN, NEW YORK.

My object in writing this paper is to show as clearly as possible, the great difference there may be in two cases in obstetrical practice, when seemingly, the surrounding conditions of life, are not at so great a variance. In the two cases that form the text of this paper there were many facts common to both.

Both women were young and strong. Both well developed physically, and passed through gestation with no more discomfort than is usual. Their surroundings of life were practically the same in quality. Both were accustomed to work, yet they were not scrimped for the necessities. Both were primiparæ. Neither had any constitutional tendency toward disease of any form known. Neither had had any severe sickness prior to confinement. At the completion of gestation, however, this great similarity ceases. We will examine each case separately.

Case I.—Mrs. F., age eighteen. American parentage. Early last winter I was engaged to confine this woman, probably in the latter part of February or early in March. The woman was uncertain as to the exact cessation of her menses. April 30 was the date when I was called, however, to confine her. About four o'clock in the afternoon the husband called and said that labor had commenced. In answer to inquiries, he said that labor had commenced at 2:30 o'clock. The man showed a very composed state of mind, and related *how* labor had commenced. At this time (2:30) his wife was entertaining company after dinner. Suddenly with no cry, she straightened back on the sofa on which she was sitting, and slid to the floor. "Her eyes rolled up so that the whites only could be seen and she was insensible." After giving this information he innocently asked if "labor always commenced like that?" An evasive answer was very satisfactory.

To a young practitioner, just from the lecture-room, where the horrors of eclampsia had been portrayed in the most eloquent of language, and who had *yet to make his debut in the lying-in-chamber*, *this* announcement was *not* like "balm to a healing sore."

Upon arrival at the house I found the woman unconscious and in a state of tonic spasm. She had not complained of pain before the attack.

As soon as possible we got her in bed. Upon examination I found that the os would scarcely admit the index finger. Chloroform was administered to quiet spasm and the husband was sent for assistance. When my friend, Dr. J. H. Hunt arrived, chloroform was pushed to complete anæsthesia and the os dilated by the hand. There was no evidence of uterine contraction. After the os had been sufficiently dilated, I applied Elliott's long forceps to the cranium, at the superior strait and in due course of time, she was delivered of a full term, male fœtus—dead. The time from commencement of labor to delivery was five and one-half hours.

Three hypodermic injections of fifteen minims each of Squibb's fluid extract of ergot were used, and just as the head passed the vulva there appeared the first evidence of uterine contraction. These pains gradually increased and soon after birth of the child the placenta was delivered by the method of Credé.

The uterus soon contracted sufficiently and a binder was applied over a compress. A half grain of sulphate of morphia was now introduced hypodermically and the patient was left for three hours. At 11 P. M. I again saw the woman alive, notwithstanding the prognosis of my colleague to the contrary. She was then sufficiently conscious to recognize her sister, but no one else. There was a *slight* laceration of the perineum.

The following thirteen days, urination was accomplished only by catheterization. With the exception of this difficulty there were no sequelæ and the patient made a good recovery.

Case II.—Mrs. B., age twenty-two. German parentage. Was called to take this case on account of the illness of the engaged physician, the gentlemen referred to in the preceding case. Labor commenced at 11 P. M.

I was called at 4 A. M., and found the os the size of a half dollar and slowly dilating. At 6 A. M., I went to breakfast.

Returning at eight, I found that the os had increased in size to that of a silver dollar. Labor pains kept steadily increasing and the woman was delivered at 12:30, of a large boy. Duration of labor, thirteen hours. There had been some delay in the head passing the vulva on account of its size and the length of the perineum. "Supporting the perineum" was performed and the child was born *without* any laceration of the perineum, as demonstrated by conjoined examination and *by sight*. The cord was around the neck, but was easily slipped over the occiput. The placenta was "buttonholed" in the vagina, but was easily removed. After-pains were almost entirely wanting. Micturition was accomplished eight hours after delivery with no trouble. Bowels moved on the third day without any laxative beyond a small glass of Hunyadi Janos water.

This patient is making a very rapid recovery. Has left her bed, but is still unable to resume her household duties to any great extent.

I am at a loss to find the cause of the eclampsia in the case above. There was a semi-daily examination of the urine made on the days following delivery, and a small amount of albumen found, which gradually decreased in quantity, and disappeared at the time of dismissal of the case.

I will not try and theorize a cause. Perhaps some older practitioner can give a reason. I surely found no evidence of any kidney disease.

A CASE OF PERITYPHLITIS.

BY W. T. DODGE, M. D., MARLETTE, MICHIGAN.

I was called on September 29th, 1882, to see J. W., aged twenty-five, a farmer of robust constitution, and obtained the following history: For several weeks he had suffered from slight pain in the right inguinal region, which had been gradually increasing in intensity. His bowels had been slightly constipated and he had taken physic several times.

While lifting logs on September 26, the pain became suddenly so intense that he was obliged to discontinue work; and in a subsequent consultation with Dr. McCrea, of this place, I learned that the patient consulted him on the 27th, at his office. At that time, Dr. McCrea found a small tumor in the right inguinal region, quite tender to the touch, and advised the patient that he might have a very severe and dangerous illness, and that he had better return home and remain quietly in bed until better.

The young man did not relish this very excellent advice, however, and the doctor heard nothing more from him until asked by me to see him on the day of his death.

The evening before I was called he took a dose of compound cathartic pills, which produced a free passage in the morning. He then took another dose, and another free passage was produced at noon, a short time before I saw him.

I found him suffering considerable pain. Temperature, 102½; pulse, 100. On physical examination, a tumor could plainly be seen occupying the right inguinal region, which was quite painful and hard to the touch. The abdomen was flat. I diagnosed perityphlitis, and ordered a fly-blister applied over the tumor, to be followed by hot fomentations. Gave him one-fourth grain sulphate of morphia, and prescribed sulphate of quinia three grains, every three hours, also sulphate of morphia, one-sixth grain, every four hours.

September 30, 8 A. M.: Dr. F. Freeman, of East Saginaw, Michigan, who was visiting friends in town accompanied me. Temperature, 101°; pulse, 120; abdomen slightly distended, and tenderness quite marked over its lower half. Dr. Freeman concurred in the diagnosis, and as the physical signs pointed to an extension of the inflammation; the morphia and the quinia were ordered given every two hours. Patient was very anxious because his bowels had not moved since the previous day, but I cautioned him not to take physic of any kind.

September 30, 8 P. M.: I found my directions had not been followed. Patient had vomited soon after taking a morphia powder and subsequently had refused to take another. Had also taken nine of "Pierces Pellets." Distention and tenderness of abdomen much more marked. Pulse, 130 and feeble; temperature, 101½°. Gave him one-fourth grain of morphia hypodermically and ordered brandy administered freely during the night.

October 1, 9 A. M.: Pulse, 116; temperature, 100½°. Had vomited once in the night which greatly increased the pain, and he then positively refused to take the medicine. (He was an unmarried man living alone and had no care except from the neighbors until October 2nd, when his mother and other relatives arrived from Canada).

October 1, 6 P. M.: Temperature, 102°; pulse, 116; abdominal appearance about the same. Has still refused to take the medicine. Gave him one-half grain of morphia hypodermically.

October 2, 9 A. M.: Temperature, 100¾ in the rectum. The stomach has rejected nearly everything that has been given him. Gave him an enema cautiously and a few lumps of hardend fæces came away. Then gave him two ounces of milk and half an ounce of brandy by the rectum, which was retained.

Dr. Freeman was with me again and we considered the matter of an exploratory puncture, but as we then supposed that his trouble dated from the 27th, we concluded that we would not be likely to find pus and that the moral effect of a "dry tap" would be bad. I then asked for further counsel and Dr. G. W. Jones, of Imlay City, Michigan was chosen. He arrived at 5 P. M., when the general condition was about the same as in the morning. Dr. Jones concurred in the diagnosis and means already used, and suggested an immediate exploration with the hypodermic needle. This was done and pus obtained in the site of the original tumor. Assisted by Dr. Jones, I then proceeded to operate and made an incision about two inches in length through the centre of the puncture, parallel with the fibres of the external oblique muscle. The first incision brought me down to the aponeurosis of the external oblique, which was cut carefully through. The hypodermic needle was again passed into the tumor, and pus being obtained an opening was made and carefully enlarged on the director. I was obliged to twist one small artery, and with that exception there was no hemorrhage. About one ounce of pus with an offensive fæcal odor was evacuated. Lint was introduced to keep the wound open, and a one-fourth grain of morphia given hypodermically, and brandy ordered given freely.

October 3, 7 A. M.: Temperature, 99° in the rectum; pulse, 100 and much stronger. Still vomiting a dark, greenish matter. No pus found in abscess which was washed out with carbolized water.

October 3, 5 P. M.: Temperature normal, pulse, 100. The stomach has retained some milk and beef tea, and patient is in good spirits. Has been no discharge from abscess. Gave an enema and produced a free passage of light-colored, semi-solid fæces.

October 4, 8 A. M.: Temperature normal, pulse, 100. Has taken considerable nourishment during the night (beef tea, milk, chicken broth, etc.), and rested quite well. Abdomen still quite distended. Some diarrhœa, dark, thin, very offensive passages. No discharge nor odor from the abscess. Gave ten grains of calomel, to be followed in four hours by half and ounce of castor oil.

October 4, 4 P. M.: Has been vomiting constantly since noon. Great tympanitis, pulse, feeble and rapid. Passages from the bowels quite frequent, but lighter in color, and less offensive than in the morning. Slight, thin discharge from abscess, odor of fæces. Ordered that nothing should be given by the mouth except pieces of ice, and the following:

℞. Saccharated Dover's Powders..........
Lactopeptin.................................. āā grs. x.
M. Sig. One every two hours.

Gave two ounces of milk and half an ounce of brandy by the rectum, and ordered it repeated every three hours. Gave one-fourth grain of morphia hypodermically and instructed attendant to use the syringe, leaving powders of morphia, one-sixth grain each to be given every four hours or oftener if necessary to relieve pain.

October 4, 8 P. M.: Has not vomited since four o'clock, and pulse is stronger. Ordered treatment continued, with the addition of a teaspoonful of peppermint water every half-hour as a carminative.

October 5, 6 A. M.; Has been free from vomiting during the night, and tympanitis much less marked. Attendant says he has "thrown a large quantity of wind off his stomach." Only one injection of the morphia has been given, and patient is in considerable pain. There is quite a free, thin and very offensive discharge from the abscess which has been cleansed with carbolized water twice a day. Directed the treatment continued with the addition of wine whey, to be administered freely if it does not derange the stomach.

October 5, 1 P. M.: Patient weaker than in the morning. No vomiting. Dislikes the wine whey. Temperature normal, pulse, 120. Directed tablespoonful of wine to be given every half hour, with as much nourishment as the stomach would retain. The injections of milk and brandy were discontinued.

October 5, 7 P. M.: Has retained everything that has been given him, and has taken considerable nourishment and stimulant, but the diarrhæa has continued and emaciation is constantly becoming more marked. Temperature, 99° in the rectum; pulse, 120 and feeble.

October 6, A. M.: Pulse, 130; temperature normal, thin, offensive discharge from the abscess, slight delirium. Has not micturated since last night, but the bladder is empty.

October 6, 3 P. M.: Extremities cold, bowels running almost constantly, urine still suppressed, delirium increased.

October 7, 6 A. M.: His friends have become anxious because he lingers so long, and I requested Dr. McCrea to see him with me. He is in a semi-comatose condition; pulse just perceptible at the wrist; urine suppressed; bowels moving involuntarily. We prescribed nothing and the coma gradually increased until his death at 2 P. M.

Autopsy, October 8: Permission was obtained with difficulty to hold a postmortem examination, and on a promise to enlarge the incision of the operation "only a little." A brother of the deceased was present to see that the promise was fulfilled, and assisted by Drs. McCrea and Verer, of this place, I made the examination under these difficulties.

Evidences of recent general peritonitis were found over the lower half of the abdomen, and some offensive pus in the abdominal cavity. The abscess opened on October 2nd, was found to be connected with the appendix vermiformis, and occupying the appendix was a lump of hardened fæcal matter, perfectly smooth, and the size of a filbert. The intestines were slightly adherent, and in the vicinity of the cæcum quite firmly so.

The appendix was larger than usual, and the rupture in it half an inch in length. One of the points of interest in this case is the low temperature that prevailed, there being no increase of temperature to mark the outset, or the increase of the general peritoneal inflammation. It was taken with a thermometer that agrees exactly with the standard thermometer of Yale college.

EDITORIAL BRIEFS.

MEMBERS of the class of 1878, University of Michigan, will be pained to learn that F. C. Horner, of that class, is dead. Soon after graduation, Dr. Horner located at Belleville, Michigan. Here he built up a good practice, and won the respect and esteem which his manly character so richly deserved. Last spring he received a severe kick from his horse on the thigh. This fall he had a mild attack of typhoid fever, but was making a good recovery when he suddenly died. Examination showed an old clot in the heart, probably due to the injury he received several months ago. Thus we have lost one of the most promising members of the profession.

MUSCA DOMESTICA.—Is the house-fly an unmitigated evil, or is it a blessing in disguise? These are questions which have probably been asked and answered variously from the remotest antiquity. Now, comes Dr. Taylor, microscopist to the department of agriculture at Washington, and broadens the field of argument on these momentous questions. He has been studying the fly in its relation to poison germs, and embodied his researches in a paper read at the late meeting of the American Association for the Advancement of Science. He finds that the proboscis of the fly is large enough to take up the spores of cryptogams, trichinæ, the eggs of auguilula, or even the auguilulæ them selves. Indeed he found several full grown auguilulæ alive and flourishing within the abdomen of its host, the fly. Dr. Taylor states:

"The facts above stated suggested to my mind the importance of instituting a series of experiments to ascertain whether house-flies might not be carriers and distributers of germinal virus. I have found in the proboscis of a single house-fly thirteen of the animals already mentioned in a perfectly developed condition, and on the thorax of another I have found sixteen living parasites of the genus acarus. It therefore seems quite possible that other microscopic organisms might be taken up by the house-fly, and again deposited where they might prove dangerous to man. This might easily happen in the case of trichinæ, as trichnosed cut meat is frequently exposed for sale in our markets, where flies abound. Considering the habits and habitats of the house-fly, it will appear evident that should it prove to be a carrier of poisonous bodies, its powers to distribute them in human habitations is greater than that of any other known insect. Under our system of public travel, the common house-fly may be transported from one end of the continent to the other. It may feast to-day in the markets of Washington, and to-morrow in those of New York, and in a like manner it may be transported from a hospital for contagious or infectious diseases to homes in the vicinity, or even in remote localities. It may also be taken from one hospital to another, or from one ward to another within the same hospital, and may plant the germs of disease in exposed wounds, or deposit them in food, or liberate them in the atmosphere breathed by patients affected by diseases of a different class."

So much is against the fly, but on the other hand there is something to be said in its favor, as is shown by the following quotation:

"To test practically the question whether flies may become the carriers of contagious germs, I instituted a series of experiments. In a glass receiver having a capacity of about five gallons of air, I placed several hundred house-flies which had been caught in an ordinary fly-trap. Within the receiver was placed a quantity of the spores of the red rust of grasses, (tricholoma rubra-vera.) The flies at first did not seem to esteem the spores as suitable food, but on the morning of the third day I found that the rust was replaced by larvæ and remains of eggs of the common house-fly.

"The eggs were deposited and hatched between Saturday noon and the following Monday morning, 9 o'clock, or in about forty-eight hours. On the following day I placed in the receiver about a quarter of an ounce of the same description of spores combined with sugar. The flies partook of this confection, consuming the sugar and most of the spores. In about twenty-four hours after the flies had partaken of this mixture I killed and dissected a number of them, and found the small intestines intensely colored, of a deep reddish orange shade, representing the digested spores of tricholoma. I observed in the contents a few well-defined orange spores, but none of them appeared to have germinated.

"Fastened between the hairs on the limbs of each of the flies examined I found a number of the spores, and the efforts of the fly to get rid of them only resulted in attaching them more firmly to it. They might, however, be brushed off by objects with which they were brought in contact, while their germinating powers would long outlast the life of the insect itself. It was evident from this experiment that flies were capable of conveying such spores to plants and other bodies. On the other hand, the fact that by far the greater part of the spores were consumed, in the one case by the larvæ of the fly and in the other (namely when mixed with sugar), by the fly itself, shows that this insect may destroy microscopic germs as well as disseminate them, and indicates that in some cases its agency in keeping down their number may more than counterbalance its action in contributing to their dissemination."

Dr. Taylor's paper is one of interest and value and we hope to have further reports from him.

A MALPRACTICE SUIT.—A suit for malpractice against one of the editors of this journal, Dr. Maclean, has recently been tried, and it may be of some interest to the profession. Mrs. Hayes called upon Professor Maclean in February, 1881, on account of a recto-vaginal fistula. She stated that she had been under the care of two most experienced physicians of Detroit for some months, and that in spite of their efforts by use of caustics, etc., her fistula still existed, and that owing to the involuntary escape of gas, etc., her life was rendered utterly unbearable. She was very anxious and very impatient to have a radical operation performed, and she was particularly desirous of having it performed by Dr. Maclean. The previous record of the case and the social standing of her husband being known to him, Dr. Maclean would gladly have avoided all relations with the family. Still, as a matter of duty, he felt bound to do what seemed necessary for the patient's relief.

On examination it was found that Mrs. H. was suffering from a recto-vaginal fistula of small size, but so completely cicatrized as to afford no hope of further closure without an operation.

The fistula was situated right on the sphincter and not more than a quarter of an inch from the verge of the anus. Not only so, but the perinæum and septum were found to be greatly reduced in thickness, so much so, in fact, that with the finger in the rectum and the thumb in the vagina, the tissue separating them *was not thicker than the one-eighth of an inch.*

The patient seemed to be in fair general health. She did not inform the Doctor of having suffered from any constitutional disease. The fistula, she stated, was the result of ulceration, consequent upon *fecal impaction.* The ulceration had destroyed the greater portion of the perineal body and the septum, leaving only the thin membrane as mentioned above.

Dr. Maclean determined to treat the case as an ordinary fistula in ano, namely, by splitting up the remnant of the perinæum and septum. In addition he determined to apply the actual cautery to the old cicatrized fistulous track, and, having done so, he expected that the wound would heal by granulation. He did not lock up the bowels, nor did he enjoin absolute rest in the horizontal position.

Before this operation was performed, the patient was informed that a subsequent operation by paring and stitching with silver sutures might be required to restore the perineal body and possibly also the sphincter ani.

The result of the operation was complete cure of the fistula. But a little notch at the surface did not heal, and the patient complained of difficulty in controlling the bowels. Consequently about four weeks later the Doctor performed a most careful and thorough operation for restoration of the perineal body and sphincter.

After this operation the patient was kept in bed, with her thighs tied together, and her bowels locked up with opiates. On or about the tenth day all the sutures were removed, and the union appeared to be *perfect* throughout the whole extent.

Before many days, however, it was found that the union had dissolved away entirely. Since then four most careful attempts have been made by two different surgeons (not by Dr. Maclean) and each time *the same phenomenon has been witnessed*.

The plaintiff's declaration set forth the following:

(1) Dr. M. did wrong in recommending or performing any operation, as the fistula would have healed of itself, and at any rate it was very small and only a matter of slight importance.

(2) The doctor did wrong in slitting up the remains of the perineal body, instead of paring and stitching the fistula.

(3) That having slit up the septum, he should have used sutures *at once*.

(4) That he should have enjoined absolute rest and locked up the bowels.

(5) That in consequence of the operation (splitting up a membrane one-eighth of an inch thick and one-quarter of an inch in depth), total loss of power of the bowels has resulted, together with prolapsus of all the pelvic viscera.

Per contra, the defendant claimed:

(1) That this or some other operation afforded the only hope of closing the fistula.

(2) That the operation was a rational and proper one under the circumstances. (She had been married eighteen years and had never conceived, and there was no account of any tendency to prolapsus.)

(3) That as a matter of fact the patient's interests were not damaged either by the operation or the after treatment.

(4) That it is absurd and incredible that the patient's present state (admitting it to be as she avows) has resulted either directly or indirectly from the comparatively trivial operation performed. On the contrary, it is much more likely to have been caused by some constitutional condition of which the doctor had not been informed.

The plaintiff was supported by Drs. Gilchrist, Brodie and Gilmartin as experts. The first was once professor of surgery in the homœopathic department of the University, where his incompetency as a rival to Dr. Maclean was so pronounced that he was removed at the solicitation of a delegation from the Homœopathic State Medical Society. Dr. Brodie is a regular physician, but admitted on the stand that he had never treated or seen a similar case; consequently his evidence as an expert was not of much value. Dr. Gilmartin's record is rather that of a pettifogging lawyer than of a practitioner of surgery.

On the other hand, Dr. Maclean was supported by Drs. Theodore A. McGraw, H. O. Walker, D. O. Farrand and Keifer.

The jury disagreed, standing four for the plaintiff and eight for the defendant. This was a substantial victory for the defendant.

In the proper time Dr. Maclean will present all the facts of the case, and his views thereon, for the benefit of all concerned.

CORRESPONDENCE.

MICHIGAN STATE BOARD OF HEALTH.

Reported for THE PHYSICIAN AND SURGEON.

The regular quarterly meeting of this Board was held October 10, 1882, at Lansing, there being present: Honorable Le Roy Parker, of Flint, President; Reverend D. C. Jacokes, of Pontiac; Dr. H. F. Lyster, of Detroit; Dr. J. H. Kellogg, of Battle Creek; Dr. A. Hazlewood, of Grand Rapids; and Dr. Henry B. Baker, Secretary.

The President read his annual address, reviewing the work of the Board, and suggesting work for the future in the line of securing the introduction of text-books on hygiene in the schools; greater attention by localities to the pay of health officers; and some amendments to the public health laws, etc.

The Secretary presented his quarterly report of work in the office, and annual report of property for the fiscal year ending September 30, 1882.

The Secretary presented a communication relative to wounds from toy-pistols, describing the pistols and the nature of the cartridges, as determined by analyses; also, a report of several cases of lockjaw and death following toy-pistol wounds. He also presented a resume of the work of other State Boards of Health. He also presented the statement that the immigrant-inspection service in this State had been continued through October on a reduced scale, impairing its efficiency; and he was requested to urge, on behalf of this Board, the continuation of the service through the winter, with the same force as in the past summer, because this Board believes there is great danger that small-pox will be introduced by immigrants from the Lower Canadian Provinces.

A committee was appointed, on request of the Warden of the State House of Correction and Reformatory, at Ionia, to examine the plans of desired buildings at that institution.

Dr. Lyster reported in preparation a paper on the present knowledge of typhoid fever, and he was requested to prepare his paper in the form of a document for publication in the Report, and for distribution. In this connection Dr. Baker presented two diagrams, showing, for the years 1877–1880, the relations of deaths from that disease to population, from which it appears that the common opinion among physicians, that this disease prevails mostly between the ages of eighteen and thirty-five, and that there is little danger after forty, is not sustained by facts. A greater proportion have typhoid fever at the ages between sixty and eighty than at any other age in life.

Dr. Lyster and Mr. Parker presented, and they were requested to complete, a report on the recent epidemic of small-pox at Flint, and they were requested to include Dr. Mulheron's report of the same outbreak.

The Secretary was authorized to issue the circular to correspondents relative to diseases in Michigan in 1882, and the circulars and blank forms for annual reports of health officers, and of clerks of local boards of health.

The subject of compulsory registration of plumbers was referred to Mr. Parker and Dr. Lyster, for the purpose of bringing it before the Legislature.

The Committee on Sanitary Conventions was authorized to make arrangements for a convention at Muskegon, about the last of November or first week in December.

The Secretary was authorized to purchase a Thomson's quadrant electrometer, and by means of it to enter upon the observation of atmospheric electricity.

Dr. Kellogg was requested to prepare a paper on physical culture.

Mr. Parker presented a proposed bill making it a criminal offense to communicate a contagious disease, and it was ordered published in the Annual Report, for the purpose of bringing it before the Legislature.

Dr. Baker reported that he had been informed of the suspicious illness of some cattle at the State fair in Jackson, and that other cattle which had been exposed had been taken to the fair at Grand Rapids. On his information, Dr. Murray, Secretary of the State Cattle Commission, had investigated the subject, and believed the disease to be Texas cattle disease.

In Detroit, it was stated, it was proposed to erect a "flame-ventilated" small-pox hospital, as proposed by Dr. Wight, the health officer. Members questioned the practicability of the plan, and it was referred to a committee.

A committee, consisting of Mr. Parker and Reverend D. C. Jacokes, was appointed on a plan for the regulation of medical practice.

Dr. Kellogg suggested some action by the Board relative to having sanitary science taught in Michigan colleges.

Mr. Parker presented a report of the meeting of the American Social Science Association, presenting abstracts of the several papers on health subjects.

After transacting routine business the Board adjourned. Its next regular meeting will be on January 9, 1883.

TRANSLATIONS.

Translations from Russian Journals for THE PHYSICIAN AND SURGEON.
BY RALPH D'ARY. M. D., ROMEO, MICHIGAN.

DELIRIAL PSYCHOSIS OR PRIMARY INSANITY. (CONTINUED FROM PAGE 457.)

His fits of anger inspire the attendants with terror. He believes himself to be Napoleon I and the Son of God at the same time. He has one dangerous idea: In order to leave the asylum it is necessary for him to kill somebody, or even to build a pile of human flesh and bones. He reasons that for such a crime he would be publicly and solemnly tried, and the consequence would be that his claims as Napoleon would be acknowledged, or that he would be executed. The latter alternative he much preferred, for in that case he would sooner occupy his place beside the throne of God and enjoy inexplicable and incomparable bliss. And how pleasant it will be to this Son of God to look down from his unattainable altitude on his prostrate enemies as they stretch out their hands to him crying for pardon! But, no, says he, there will be no pardon for them!

We may now proceed to distinguish two forms of delirium: One depending on hypochondriac sensations localized in various organs of the body; the other on hysterical sensations. Both forms may be acute or chronic, and relapses are frequent, for this reason, the above named sensations are very difficult to cure.

But in other cases of the disease, the main causes of the development of the delirium are hallucinations, mostly of the hearing, next of the sight, and occasionally also of the touch, taste, and smell. In the acute form of the disease these hallucinations continue without interruption. This form is called "hallucinatory insanity." The patients are irritable and their conduct and temper, being influenced by their hallucinations, present changes and variations which to the onlooker appear altogether without reason and motive. From tears they immediately proceed to laughter; from excitement or even violence, to apathy; they may desire a certain object and the next moment may not wish to see it; they may ask for food and immediately refuse to eat it; they exchange every undertaking for some other, leaving the first one unfinished, etc. Whatever they say, of course, appears perfectly delirious. These patients generally suffer from insomnia, and if not carefully watched and attended, they suffer from starvation and soon become emaciated. Under favorable conditions recovery generally takes place in several weeks. Chronic delirium, resulting from hallucinations, may be known by the circumstance that the hallucinations of the senses are not constant, but appear intermittently. The patients, believing these hallucinations to be actual impressions from without, naturally act in accordance with the nature of their hallucinations. Let us presume, for instance, that the patient believes he hears behind the wall, the noise of voices, and a great turmoil. He at once suspects that these noises have some reference to himself. He hears next that his name is pronounced by those voices, and he is now certain that there is a conspiracy against himself. This patient also will believe that everybody is interested in him; that hints are constantly dropped concerning him, and that he is persecuted in various manners. In this form of delirium the patient also comes to the conclusion that since so much interest exists concerning him, he must be some extraordinary person, and he quickly arrives at a conclusion as to his identity, for his hallucinations control him still more completely than in the preceding form of delirium. He interweaves with them the various incidents of his past and present and ascribes to them all a certain symbolical and special meaning and importance. In this form of the disease, as in the two preceding ones, the patient is being persecuted and poisoned, and has been confined in the asylum as in a kind of prison, not because he is less worthy than others, but because he is dangerous to the interests of certain other persons, who have usurped the exalted position which is his birthright, etc., etc.

There is yet another cause for the development of delirium, namely, involuntary, *compulsory* ideas, which arise in the patient's mind unexpectedly and soon become dominant. At first the patient examines such an idea critically and realizes all its absurdity, but at the same time he feels that he is not able to escape it. These ideas sometimes leave the patient for a while, but in other cases they are ever present in the sufferer's mind, and it is therefore natural that finally all his thoughts are concentrated on them and subservient to it. Let us suppose that the unavoidable idea is that in every dish offered the patient there is some poison, and sooner or later the patient will look upon it as a fact, will try to find a reason for it, and then develop the delirium of observation (suspicion), of persecution and of grandeur.

There are, therefore, four varieties of delirium, depending on the cause and course:

(1) Delirium developed from hysteria.
(2) Delirium developed from hypochondria.
(3) Delirium developed from hallucinations.
(4) Delirium developed from unavoidable ideas.

Any one of these varieties may be acute or chronic.

In addition to these we must mention: (1) The above named congenital delirium (originäre Verrücktheit) which is developed in infancy, and (2) the abortive delirium (abortive Verrücktheit) of Westphal, in which the number of delirious ideas is very insignificant and their contents harmless, so that the patients are not dangerous and may continue to live in society or even to fulfil their ordinary duties.

It is not often that any one of these varieties of delirium is seen in its pure type, for generally it is of a mixed type, partaking of the nature of several varieties, with especial prominence of the hypochondriac and hysterical.

In order to complete the picture of delirium, I must point out the following four peculiarities of the disease, which I consider of great importance:

(1) I would ask you especially to notice that unless the disease is complicated with imbecility, the intelligence of the patients is apparently good; the patients remember clearly the incidents of their lives; when they are free from their hallucinations or sensations they converse well and reasonably, solve quite difficult problems, and count correctly and easily. If the patient prior to his disease was intelligent, he uses great art in concealing his delusions; sometimes so cunningly that for a long time his disease remains undiscovered and it takes considerable adroitness on the part of the physician to draw him out. Hence even experienced alienists have erred in the diagnosis.

(2) Another important symptom accompanying this disease consists in vaso-motor disturbances, and most frequently spasmodic contraction of the cerebral vessels. In the clinic it can often be noticed, how the faces of such patients suddenly pale under the influence of some unpleasant external impression, or some subjective sensation or hallucination, whilst the pulse becomes abnormal in quantity and quality. In these moments the patients are not rational, and manifest the delirium under which they labor, in word or deed.

(3) The delirium is sometimes interrupted by stupor, accompanied occasionally by the waxy flexibility of catalepsy, similar to that which Schiff has observed in rabbits after removal of the cerebral hemispheres.

(4) The delirium may continue for years without the advent of imbecility. Meynert has observed the disease in several septuagenarian patients, who yet presented no symptom of senile imbecility.

From this latter circumstance we may draw the conclusion that in delirium the pathological focus is not located in the hemispheres, on whose functions our intellectual abilities depend, but in some other division of the nerve centers. But without participation of our logical apparatus (as Meynert calls the cerebral hemispheres) the delirial ideas cannot be formed. In what manner, then, are the functions of the hemispheres impaired? In answering this question I shall simply give Meynert's opinion, and thus conclude this lecture.

He teaches that every mental disease is the expression of a lesion of the cerebral hemispheres, and that they are the apparatus required for the drawing of conclusions or inferences from the various impressions conveyed to them from the external world or parts of the body. This apparatus may be affected by primary disease, the morbid anatomical changes arising within its substance. Or the disease may be secondary, the anatomo-pathological changes being located in the medulla or the spinal column, but reacting on the hemispheres through various channels, *e. g.*, the vaso-motor apparatus, and causing abnormities of the nutrition of the hemispheres. As you know the anatomical connection between the hemispheres and the spinal nervous system is a close one, but yet they are antagonistic in their functions, that is, the lessening of functional activity in the one, increases that of the other. This antagonism has been demonstrated experimentally by Goltz, Schiff and others, but it can be perceived on simple observation. If you observe a person intensely engaged in the consideration of some difficult problem, and therefore actively using his "logical apparatus," the cerebral hemispheres, you will readily perceive that actual external impressions are received by him with indifference; you may pass by him, or speak to him, and he may not notice you. Even bodily suffering, and pathological sensations for the time are dulled and not perceived by him. All this is due simply to the increased activity of the hemispheres, which thus appears capable of lessening the functions of the reflex apparatus and the subcortical nerve centers of Meynert. But, says he, in the healthy subject even the ordinary normal activity of the hemispheres does not admit of any isolated, unavoidable, or compulsory idea, or hallucination. These are possible only when the functions of the hemispheres are depressed. In order to verify this it is only necessary to examine the conditions producing the hallucinations, the proximate causes of the delirium. The periodical decrease of the functional activity of the hemispheres, which is the result of the daily mental exercise produces sleep, and with it, dreams, namely hallucinations. In epileptic seizures various hallucinations appear exactly at the moment when consciousness is lost, etc. In these and similar conditions the activity of the sub-cortical sensory centers is liberated from the control of the cortical layer of the hemispheres and, reacting on that layer, are perceived as actual extraneous impressions. In delirium we also have indications of a lowering of the functions of the hemispheres, and consequently of their control over the sub-cortical centers, for these patients are more sensitive to extraneous impressions than mentally sound people. In delirium we farther observe the above mentioned vaso-motor disturbances, which occur because the sub-cortical vaso-motor center (which by Ludwig and Ofsannikof is located in the medulla) has become more irritable, being freed from the control of the hemispheres. Finally, we must look upon the tears, laughter, spasms of the glottis and other symptoms occurring in hysterical patients, as merely uncontrolled reflexes.

In pathology we use the term "irritable weakness" to designate the condition generally present in hysteria. The same term is used by Meynert in explanation of the development of delirium, but in a slightly different sense, since in this disease we have two factors; firstly, the lowering or weakening of the controlling function of the cerebrum, and secondly, the exaltation of the functions of the sub-cortical centers. On these grounds only are we able to explain the occurrence of the hallucinations and other symptoms of delirium, as well as the absence of anatomo-pathological changes of the cerebrum.

It is possible that you doubt that a person laboring under a compulsory idea and experiencing peculiar incomprehensible sensations in his body, should thereby be led to imagine that others observe him in a special manner. Meynert says this is only natural. The patient is exactly in the position of a person who appears in society for the first time in a new costume or uniform, and perhaps imagines that he is especially observed and attracts attention, whilst in reality it may be nobody takes any interest in him. I would ask your attention to the fact that the ideas of the delirium are not developed in consequence of a gloomy state of mind, which in this disease is not always present, and when present is not primary or causative. A sadness or gloom may oppress a person, in consequence of some disappointment in life, the loss of dear friends, etc., and may continue even for a year without being abnormal, and without causing delirious ideas. Neither are these ideas developed from errors of the patients, for an error in judgment is not a false idea in our sense, and can be corrected, whilst the delirious ideas are constant and are not corrected, or rejected. Let us borrow an example from Meynert. If a person keeps repeating to us that his heart lies in the left part of the thorax, no one could say that this statement is erroneous, or a false idea. But if you question him farther you see that this manner of making a statement conceals an error, for he implies that this position of the heart is an abnormal one, and that it should be on the right side. If this idea is only the result of the man's forgetfulness or ignorance it is simply an error, not a false or delirious idea. But if the person persist in his belief in spite of actual demonstration and presentation of the truth, then we must look upon his delusion as a false or delirious idea, perhaps having its origin in a hallucination.

In conclusion I must explain a seeming contradiction in my lecture. In the beginning I said that in delirium the memory and judgment remain normal. Later I stated that the inhibitory or controlling cerebral functions are lessened, and that the truth of both these statements may be shown clinically. In order to reconcile these facts it is necessary to accept Meynert's explanation that in order to arrest the functions of the cerebrum as a "logical apparatus," a more extensive pathological process is required than one that would merely arrest its controlling influence over the sub-cortical centers. This control being removed, hallucinations, etc., arise, and the patient reasons logically on the grounds of the delusions which to him are realities. But since he reasons from wrong and often absurd premises, his ideas are false and constitute what we have called delirium (delirial psychosis).

Since the above views have gained ground we no longer look upon these patients as incurable, but treat them so as to strengthen them in body and mind. To effect this, some of them almost to be re-educated.—*Vratsh.*

DIAGNOSIS OF PREGNANCY.

Dr. Jorissene believes he has found a new and *reliable* sign of early pregnancy in the constancy of the pulse in various positions of the body. The doctor proceeds as follows:

He places the woman in a chair, telling her to sit down comfortably, leaning against the back, and allowing her hands to hang down. When she is well rested he counts her radial pulse during one-quarter or one-half minute. Then the patient is told to stand up and still allow her hands to hang down. After she has rested from the exertion of rising, he again counts the pulse; finally the patient is told to lie down horizontally, (not raising the head) and the pulse is counted again. If desirable, the couch may be raised at the foot, so as to make the head the lowest part of the body, and the pulse counted again. In healthy, non-pregnant women the pulse, in the upright position would be considerably faster than in the sitting, or still more the horizontal position, whilst in the pregnant woman these changes of position produce no influence on the pulse. The author has examined women only from the first to the five and one-half months of pregnancy. He has continued these examinations since 1874, and has not yet met with any exceptions. —*Arch. de tocol.*—*Vratsh.*

NOTE.—Since I translated the above, a lady called on me in order to be told whether she was pregnant (for the first time) or "bloated." I carefully applied the above test, twice, and the pulse changing in various positions, according to Dr. Jorissene I should have diagnosed non-pregnancy. But, remembering how deceptive hitherto all new so-called "sure signs" of pregnancy have proven, I thought it prudent to proceed to make the usual examination and was forced to diagnose pregnancy. Finally all doubt was set at rest by my succeeding in calling out fetal movements. Therefore, either Dr. Jorissene's infallible rule is not good, or else I have found the first exceptional case, or lacked the requisite skill to apply his method properly. Possibly it is an exceptional case, her pulse being irregular and too fast. When she was lying down it beat 24 per quarter minute; when standing, 29 or 30.—D'ARY.

CLINICAL REPORTS.

GLEANINGS FROM ANN ARBOR CLINICS.

Reported by THOMAS J. SULLIVAN, M. D.

SURGICAL CLINIC AT UNIVERSITY OF MICHIGAN.

BY DONALD MACLEAN, M. D.,
Professor of Surgery and Clinical Surgery in the University of Michigan.

NEURALGIA OF SEVERAL BRANCHES OF THE FIFTH PAIR OF NERVES: OPERATION: CURE.

A. M., aged sixty-four a resident of Archibald, Ohio, entered the hospital October 11, suffering from neuralgia of the right side of the face, which has lasted for twelve years. During the last three years the pain has been severe, and the patient suffers very much. He had most of the teeth on the affected side of his face extracted but without any benefit. Talking or almost any motion of the face causes severe pain.

The patient locates the pain in the side of the tongue and those portions of the face supplied by the infra orbital and mental branches.

October 16: Patient placed under the influence of chloroform; and an incision made. The infra orbital was seized, well stretched, and a portion removed. The mental branch of the inferior dental was reached from the mouth by dissecting the lip from the jaw. The nerve was well stretched, divided, and a portion of it removed.

October 18: Patient brought before the class and stated that last night he rested better than he had for the last two months. Has very little pain since the operation; wounds healed and patient discharged; cured.

October 28: Since the above was written, Professor Maclean received a letter from the patient which is as follows:

"I can sleep better than I have for the last five years. In fact, I am better than I have been for the last ten years. Yesterday, while going through my orchard, I picked up an apple and ate it to my great surprise. I could not have done so before the operation for love nor money."

NEURALGIA OF THE MALAR BRANCH OF THE SUPERIOR MAXILLARY: DIVISION OF THE NERVE: CURE

On October 2, 1882, C. B. W., of Frankford, Illinois, aged fifty-five applied at the hospital for relief from painful and persistent neuralgia.

The pain is in that portion of the face which is supplied by the above nerve and is of a sharp twitching character, lasting about a minute or two and returning at short intervals.

He has had a great deal of treatment without any relief and is willing to undergo any operation which will afford him the slightest chance.

At the patients request the operation was performed without an anæsthetic and an incison was made along the border of the infra orbital ridge, the eye turned up, and a hook passed under the nerve. It was then stretched as much as it would bear and divided as far back as could be reached. The remaining external portion was pulled out through the canal from the outside and cut off. Wound was then closed with horse-hair sutures.

October 6: The patient was brought before the class and stated that he had not felt any of the neuralgia since the operation. He also stated that the operation was not as painful as the neuralgia. Discharged; cured.

Since writing the above the patient sent a letter to Dr. Heath, the House Surgeon, stating that when he went home he found half the town at the depot waiting his arrival to congratulate him on his cure. He says he has not felt the slightest pain since the operation.

BOOK REVIEWS.

WHAT TO DO IN CASES OF POISONING. By William Murrel, M. D., M. R. C. P., Lecturer on Materia Medica and Therapeutics at the Westminster Hospital; Assistant Physician to the Royal Hospital for Diseases of the Chest. Second Edition. Detroit: George S. Davis, 1882.

This is one of the vest pocket series now so much in vogue and for our part we can see no possible need, either to the profession or to patients, of such a book. We will quote a part of one paragraph given under "lead poisoning." It is as follows:

"Give half a drachm of dilute sulphuric acid, or aromatic sulphuric acid in water."

This advice is certainly of no value to the physician. Even in this country where the standard of medical education is deplorably low, no freshman student could pass his examination if he did not know that sulphuric acid or soluble sulphates should be administered in lead poisoning. To the physician the advice is superfluous and this is true of every word given under "lead." To the patient or his friends the advice is worse than useless; it may be very harmful. "Give half a drachm of dilute sulphuric acid in water." In how much water? in a spoonful, glassful or barrel?

We can conceive of but one class of persons—quacks—to whom the advice given under "lead" may be of any possible value. That a man of the scientific eminence of Dr. Murrel should give himself to the production of such a work is a shame. By such books as this, a premium is offered to ignorance and superficiality. There has been enough of this vest pocket medical literature, and the profession would have been much more intelligent and respectable to-day, had no such books ever been written. To-day the medical student or practitioner too often carries the knowledge that he should have in his brains, in his vest pockets.

NITRO-GLYCERINE AS A REMEDY FOR ANGINA PECTORIS. By William Murrell, M. D., M. R. C. P., etc. Cloth; pages, 78. Price, 1.25. Detroit: George S. Davis, 1882. For sale by John Moore, Ann Arbor.

It is with pleasure that we turn from the book just noticed to the one now before us. This is a monograph on the action of nitro-glycerine in angina pectoris. It contains a short study of the physiological action of the drug and reports of many cases with conclusions. Minute directions with reference to dose, method of administration, etc., are given, We recommend the work to all, who desire to acquaint themselves with the latest and most authentic treatment of this painful disease.

THE EXPERIMENTAL METHOD IN MEDICAL SCIENCE: SECOND COURSE OF THE CARTWRIGHT LECTURES OF THE ALUMNI ASSOCIATION, COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK. By John C. Dalton, M. D. Cloth. Pages, 108. Price, $1.25. New York: G. P. Putnam's Sons, 1882.

This volume consists of three lectures on historical subjects. The first discusses, "Galvani and Galvanism in the Study of the Nervous System;" the second, "Buffon and Bonnet in the Eighteenth Century;" and the third, "Nervous Degenerations and the Theory of Sir Charles Bell."

These are important historical subjects in medical literature, and we are glad that Dr. Dalton chose these themes for his lectures. He has made the discussion very attractive and instructive. He shows the great value to the scientific world of the experiments of Galvani and Volta. From the simple observations of these men, many great achievements have been made, and the future promises still more. On the other hand, Buffon's theory of "organic molecules," and Bonnet's theory of the "inclusion of germs," which originated solely in the imaginations of their authors, did naught save retard the progress of true science. But the experiments of Waller and Bell opened up a new world. Dr. Dalton could not have made a better selection of subjects to show the difference between experimentation and metaphysical theorization. Surely, the "experimental method in medical science" has increased our knowledge, has enabled us to relieve pain and prolong life, and in many ways has blessed the world. Will the wildest vivisectionist claim that the lives of the few frogs sacrificed by Galvani, Volta, Waller and Bell, were of more importance than the advance in civilization made through, and the thousands of human lives saved by, the knowledge gained from these experiments?

ESSENTIALS OF VACCINATION: A COMPILATON OF FACTS RELATING TO VACCINE INOCCULATION AND ITS INFLUENCE IN THE PREVENTION OF SMALL-POX. By W. A. Hardaway, M. D., Professor of Diseases of the Skin in the Post-Graduate Faculty of the Missouri Medical College, Saint Louis; Member of the American Dermatological Associations; Formerly one of the Vaccine Physicians to the city of Saint Louis. Chicago: Jansen, McClurg & Co., 1882.

It is pleasant once in a while to find a book that is fully true to its title. Sometimes, in mock modesty an author styles his book a "Hand-book" or "Elements" of a certain branch of science, yet he crams into it a crude mass of undigested material —the more the better—to make a large book. At other times a book is like certain stores, carrying all its most pretentious goods in the window. The little volume, however, really does contain the *essentials* of its subject, condensed in one hundred and thirty-five pages of very large type. Nothing is left out. The important subject that it treats on is fully and fairly brought before the reader. The large mass of statistical and polemical material since Jenner's time evidently has been carefully compared and considered, and both the *pros* and *cons* are stated in a lucid, concise and even attractive manner. The book is well calculated to restore the art of vaccination to that estimation in the practititioner's mind which it deserves as one of the most important means of preserving human life. We take the liberty to extract a note which is of paramount practical interest on page 92:

"Patent lymph cones, of which I have no personal experience, are said to be both fraudulent and dangerous. Microscopical examination of the mass which they contain shows them to be made up of and animal vegetable debris of various sorts. Professor Lindsley states that he has been informed that an amount of 'consolidated solid lymph,' enough to make one of these cones, could not be produced for more than one hundred times the price named in the advertisement. Very serious results are reported as having occurred from their use."

We would add, that the fact alone of their being *patented*, should be sufficient reason for a reputable physician to avoid their use so long as good lymph in non-patented form is within reach. D'A.

OPIUM-SMOKING IN AMERICA AND CHINA: A STUDY OF ITS PREVALENCE AND EFFECTS, IMMEDIATE AND REMOTE, ON THE INDIVIDUAL AND THE NATION. By H. H. Kane, M. D., author of "The Hypodermic Injection of Morphia; its History, Advantages and Dangers;" and "Drugs that Enslave; a Study of the Opium, Morphine, Chloral and Hashish Habits." Cloth; flexible covers. Pages, 156. Price, $1.25. New York: G. P. Putnam's Sons, 1882. For sale by Sheehan & Co., Ann Arbor.

This is an exceedingly instructive and timely little work. When Dr. Kane wrote his work on "Drugs that Enslave," he thought that the habit of opium-smoking was practiced so little in this country that a discussion of the subject would be useless; but subsequent investigation showed that he was in error on this point. Every city of any size in the United States now has its "joint," where a complete smoking outfit can be obtained, and where Americans, as well as Chinamen, may be found indulging in the pernicious habit. In New York, on Mott and other streets, there are many of these dens, and both sexs frequent them. The author, in order to gain knowledge of the subject, visited these places and made a scientific study of the effects of the practice upon both the beginner and the confirmed smoker. The evidence of the prevalence of the crime brought forward is truly appalling. The author also points out many misconceptions and exaggerations made by popular writers. The details of treatment are given, and every medical man should familiarize himself with the contents of the work.

ON SLIGHT AILMENTS: THEIR NATURE AND TREATMENT. By Lionel S. Beale, M. B., F. R. S., Fellow of the Royal College of Physicians; Professor of the Principles and Practice of Medicine in King's College, London, etc., etc. Second Edition, enlarged and illustrated. Cloth; pages, 283. Price, $1.25. Philadelphia: P. Blakiston, Son & Co. For sale by Sheehan & Co., Ann Arbor.

This is one of the medical books which has truly supplied "a want long felt." Very few medical books published within the past five years have been received with so much enthusiasm as has this one. "Slight Ailments" form the bulk of practice and yet most of our large works have failed to discuss them at all. A young physician may found his reputation and build up a large practice by being able to relieve a sick headache or a sour stomach. Again the physician who studies the art of making his patients as comfortable as possible during prolonged sickness will be rewarded most gratefully. To instruct the physician how to do this is one of the chief objects of this book. The author gives the method of treatment, in such common affections as offensive breath, water-brash, flatulent croakings, constipation, simple diarrhœa, worms, vertigo, biliousness, sick headache, nausea, restlessness, rheumatic pains, bad cold, bites of insects, etc. Many of these slight ailments often sorely perplex the physician; or his ignorance of their treatment will cause him to neglect them wholly, and thus turn away from himself many a patient. We would advise all young physicians especially to secure this little volume and to study it thoroughly. It will amply repay the small cost.

DISEASES OF THE RECTUM INCLUDING FISTULA, HEMORHOIDS, PAINFUL ULCERS, STRICTURES, PROLAPSUS, ETC., WITH DIAGNOSIS AND TREATMENT. By William Allingham, M. D., F. R. C. S., Surgeon to Saint Mark's Hospital for fistula and other diseases of the rectum. Fourth revised and enlarged Edition with illustrations. Paper; pages, 168. Price, 75 cents; Cloth, $1.25. Philadelphia, 1882. P. Blakiston, Son & Co. For sale by John Moore, Ann Arbor,

This work is probably better known than any other on the subject. Its popularity is evidenced by the fact that three large editions have been exhausted, and the book has been translated into the French, Italian, Spanish and Russian languages. It is the production of a man of great experience, and the repeated revisions make it of great worth. The author points out the great necessity of examining into the condition of the uterus and other pelvic organs in the treatment of hemorrhoids, ulcer, fissure, etc. We notice that he gives marked preference to the ligature in the treatment of internal hemorrhoids. On this subject he has the following to say:

"Let us see how the matter stands. In Saint Mark's Hospital the death-rate from all causes in operations on internal hemorrhoids by ligature during a space of more than forty years is just one in six hundred and seventy. Now, hospital practice is notoriously more fatal than private practice, yet what a brilliant result has been obtained! Referring to the four cases of tetanus occurring in Saint Mark's in the months of March and April, 1858, they must be considered quite exceptional, as since that year no case of the disorder has appeared.

"Mr. Curling, in his work on 'Diseases of the Rectum,' says, 'In the year 1858 tetanus was very rife in London.' I have the good fortune not to have had one single fatal result from the ligature, either in my public or private practice, which now extends to more than one thousand six hundred operations.'

"Copeland in his work, says that he has seen only one death.

"Bushe that he never had a fatal case with the ligature.

"Sir Benjamin Brodie, whose experience was unusually large, states he never lost a case.

"Mr. Syme says, 'In the whole of my practice I never met with a case which either terminated fatally, or even threatened to do so.'

"Mr. Curling, in the last edition of his work, affirms 'that, with one exception, no fatal case of operation by the ligature has occurred, either in my public or private practice.'

"Mr. Quain had only one patient succumb in his practice with the ligature.

"Mr. Ashton has not recorded a single death from his method of operating by ligature.

"My colleague, Mr. Gowlland, who, in all probability, has had a larger experience in rectal surgery than any other surgeon in London, has had a most remarkable success with the ligature in hemorrhoids; and after a prolonged trial with the clamp and cautery, has finally abandoned it.

"My friend, Mr. Alfred Cooper, with large opportunities for arriving at a correct judgment, informs me that he has never had a fatal case with the ligature, and now does not employ the cautery, My remaining colleague, Mr. Goodsall, is also at one with me in preferring the ligature.

"Let us for a moment see what our American *confrères* think:

"Gross, in his great work on surgery says: 'The operation (ligature) is as simple of execution as it is free from danger and certain in results.'

"Dr. Van Buren, so well known here, and whose experience in the treatment of rectal disease is very extensive, says: 'I have never had an unpleasant symptom.'

"Bodenhamer states: 'I have yet to encounter my first serious accident.'

"I could go on citing the favorable opinions of my American friends with regard to safety of ligation, but I feel I need not add anything to what I have written to prove the great success in every way of the operation when properly performed, and when the patient is well treated and placed in good hygienic conditions. It must be clear that if the death-rate at Saint Mark's Hospital, in so many years, has been one in about six hundred and seventy cases, equally good results ought to be obtained in private practice. If patients are placed in hospital wards teeming with septic poisons, the deaths which take place cannot be justly ascribed to the operation."

There are many other interesting points, but we must refer our readers to the work itself, which has been issued in such a cheap, yet substantial form, that it is within the reach of all.

SYPHILIS. By V. Cornil, Professor in the Faculty of Medicine of Paris, and Physician to the Loucirne Hospital. Translated with notes and additions by J. Henry C. Simes, M. D., Demonstrator of Pathological Histology in the University of Pennsylvania, and Assistant Surgeon to the Episcopal Hospital, Philadelphia, and J. William White, M. D., Lecturer on Venereal Diseases, and Demonstrator of Surgery in the University of Pennsylvania, and Surgeon to the Philadelphia Hospital. Cloth; pages, 461, with eighty-four illustrations. Philadelphia: Henry C. Lea's Son & Co., 1882. For sale by John Moore, Ann Arbor.

There are many works upon syphilis, and it might at first seem that the introduction of another to the American profession is superfluous; but examination of the volume before us shows that the subject is treated in a wholly different manner from that followed by any English or American author. It discusses especially the pathological anatomy of the disease and the author's eminence as a pathological anatomist and histologist, renders anything that he may write upon this subject valuable. We think that we have obtained by reading the book a much clearer idea of the natural history of the disease than we have been able to obtain from any other source. The histological differences between chancre, soft chancroid, epithelioma of the genitals, and herpes are pointed out with great clearness.

It must not be understood, however, that the book is devoted exclusively to histological discussions; for practical conclusions are reached and the treatment of the disease, as well as its diagnosis and history is discussed with sufficient fullness.

The translators and editors have done their work well. The reading is smooth and free from any attempts to imitate French idioms. Besides, the additions made by the translators, which are enclosed in brackets and which constitute about one-third the volume, are not less valuable than the translation.

If space permitted we might refer to many sections of special value, but we must refer the reader to the volume itself.

With reference to the advisability of excision of the primary sore, the translators have the following to say:

"The statistics in reference to its influence upon the subsequent development of the disease have already been given, but we may add that the opinion deduced from them has been greatly strengthened by our personal experience. For a few months we have excised most of the typical infecting chancres which have come under our notice, and which have been favorably situated for the operation. In the majority of cases, some fifteen or twenty in number syphilis has followed, but in a few it seems probable that constitutional disease has been prevented. As most of them are unavoidably open to the doubt as to accuracy of diagnosis, so often urged against this form of proof, we do not give them in detail, although ourselves conof the former are not yet very numerous at Trois Fontaines, the brethren have begun to collect and sell the seed. They have likewise a tanyard, where the bark shed by the trees is used in tanning sheepskins, which furnish shoes for the whole establishment; and large quantities of a tonic liquor, which is already in great demand, are prepared from the leaves. Trials are to be made of other species, as *E. amygdalina*, the only eucalyptus which stood the winter of 1879–80 in Upper Italy, and *E. melliodora*, so called from its honey-like odor, the hygienic value of which is, however, believed to be inferior to that of other species. Great differences have been noted in the rates of growth of different species; and it has also been observed that the young trees exhibit much diversity in the shapes and tints of their leaves, even on the same species, and do not assume their specific characteristics until after several years growth. Two practical conclusions may be deduced from this very interesting memoir. One is that success in eucalyptus planting in all ordinary circumstances depends mainly on getting healthy, vigorous seedlings, and looking well after them when first planted out, especially as regards regular watering—a difficult point in many cases. Judged by the experience of Trois Fontaines, the eucalyptus—the commoner species, at any rate—is not over-sensitive to cold, and, once rooted, will bear almost any amount of wind. The other is that temperature has, *perhaps*, scarcely been sufficiently considered in connection with the hygienic action, real or alleged, of the eucalypti. The balsamic emanations from these trees, which some writers believe have a specific influence on the malarial germs are most redundant at a temperature of 68° Fahrenheit and above; in winter, their presence in the atmosphere is imperceptible. At such temperatures the vegative activity of the trees is greatest. In the Mediterranean countries, wherever the hygienic value of the eucalyptus has been established, as at Trois Fontaines and in Corsica, the "aria cattiva" or malarial influence, as it happens, is most malignant during these very summer heats when the functional vigor of these trees is in fullest activity. But, does this fortunate coincidence obtain in respect of all the miasmatic and malarious sites where eucalyptus planting has been tried or proposed as a panacea?—*H. M. Chichester, in Journal of Forestry.*

TREATMENT OF DIPHTHERIA.

Dr. Morell Mackenzie, who is now visiting this country, gave a lecture on diphtheria, by invitation, before the class at Bellevue. We give his remarks on treatment as taken from the *Philadelphia Medical News:*

Now we pass to the treatment, which is perhaps even more important than the prognosis. Here you will find the remedies recommended very numerous, and in many instances directly antagonistic. I remember to have read the report of sixty cases of diphtheria, in which it was stated that all the patients were bled, and all recovered. Such reports show the possibility of making mistakes in diagnosis, and the possibility of finding people who can stand depletion in an extraordinary manner.

We have first to consider the constitutional, and then the local treatment. The constitutional treatment is not less important than the local. Diphtheria is the disease *par excellence* in which stimulants are most important from the beginning. I am an advocate of moderation in the use of stimulants, both in health and disease, but in diphtheria we have an exception. I would advise you to give brandy diluted with water, or port wine and water, from the beginning of the attack. Do not wait for your patients to become exhausted, but stimulate them from the first. When they are beginning to recover, light wines are particularly useful. You must give stimulants not only during the day, but during the night in a large number of cases. I have seen many cases where I believe patients have died because stimulants were not administered during the night. Frequently it is advisable to wake patients to give them stimulants, if they sleep more than four hours. It is important not to let your patient get depressed, and to give stimulants from the first.

I will now pass from the use of stimulants to the use of medicines. Of these the most useful, I believe, is the perchloride of iron. Dr. Jacobi has found this remedy more useful than any other. For general constitutional purposes there is no better remedy, It should be given in full doses. We generally give the tincture or a solution of the perchloride of iron. It is important to give a per-salt. As Dr. Jacobi says, you should give at least a drachm a day; fifteen drops well diluted with water, four times a day. The only times I have not given it is where I have been trying the effects of local remedies, and did not wish to have the results affected by constitutional remedies.

Quinia is of great value in cases having high temperature. These two drugs, perhaps, may be considered the most important constitutional remedies.

All sorts of specifics have been recommended. I have not had any particular success with these remedies. Chlorate of potash is probably the most important. I wish to call particular attention to a remedy introduced by one of your professors, Dr. Beverly Robinson; I refer to cubebs and copabia. These drugs, as many of you may know, have a peculiar influence upon mucous membranes. I have made use of the French pearls coated with sugar, which are readily taken by children, and have had very gratifying success. I have used them principally in the catarrhal form of diphtheria, where the secretion is not very adhesive, and where there is a good deal of catarrh in connection with the false membrane. When there is an epidemic of diphtheria you get a large number of catarrhal cases and in these you will find the pearls to work well.

We pass from the general to the local remedies. Here we have a very wide field. A great many doctors go through life and see very few cases of diphtheria. Some doctors meet with only mild cases, others with severe. Some physicians will tell you they have never lost a case, and will recommend some such simple remedy as chlorate of potash. These statements you should regard with suspicion. Of simple local remedies, lime water and lactic acid are probably the best. One thing in their favor is that they can do no harm. It is a good thing in applying remedies, to have those which can do no harm, even if they do no good. These are much better than strong hydrochloric acid or nitrate of silver, drugs which were formerly used. Strong caustics, we now know cause an extension of the disease, or an increase in the formation of false membrane as it is called. Therefore, when we were told by the German physicians that lactic acid and lime water were efficient remedies in diphtheria, it was very acceptable news. I should state also that solutions of potash have been found very useful. These solutions have a marked effect upon the false membrane. They will gradually dissolve it, as you can demonstrate to yourself by placing some false membrane in a glass of water with the potash. In the living subject, however, where there is a constant reproduction of false membrane, it is a different thing. I have found when I used locally a solution of potash strong enough to dissolve the false membrane, it had an irritating effect. With regard to lactic acid and lime water the result is somewhat different. They do not appear to effect false membrane placed in a tube of water, but in the living subject they certainly do have a dissolving effect upon the false membrane.

It is always difficult to determine the exact effect of any local application upon the false membrane in the throat, on account of the difficulties attending inspection, especially in young subjects, among whom the disease usually occurs. I once had the opportunity, however, of trying those remedies where I could observe their effect. The membrane was situated upon the inside of the lip. I treated one side with lime water, while no applications were made to the other. The side treated got well fastest. I mentioned this detail in passing as opposed to Dr. Jacobi's idea that the influence of these remedies has been over-estimated.

We pass on to another class of remedies, namely, those which have the effect of shutting out the air. These have been used considerably in England but not much, so far as I am aware, in America. I tried some experiments a few years ago of dissolving different gums in ether, chloroform, and alcohol, and I found as a result of a considerable number of trials, that tolu in ether, in the proportion of one part of the former to five parts of the latter, made a good varnish, one that was strong and would not crack, and furthermore, was not irritating when applied to mucous membranes.

Many of these local remedies have been recommended on the ground that they destroy germs. I omitted to mention carbolic acid and salicylic acid as among the most useful of local remedies. Carbolic acid is a very great germ destroyer. All of this class of remedies have been recommended upon the scientific ground that they destroy germs.

Now the principle which I introduced was this: no matter whether it is an animal germ, or vegetable growth, or something else that causes this false membrane to be formed, whatever it may be, it requires the presence of air in order to develop. By excluding the air, we arrest its growth. Hence, when I have a patient with diphtheria, I exclude the air from the surface of the affected mucous membrane by the application of tolu varnish. This varnish is in fact a germ destroyer, for germs can not grow without air.

Some of my friends have found difficulty in applying the varnish. The first method of application which I adopted was to wipe the surface dry with a piece of blotting paper, and immediately afterward apply the varnish with a camel's-hair brush. This answers very well when you can do it, but very often the patient retches a little just after you have wiped the surface dry, and again covers it with mucus. To avoid such an accident, I adopted the plan of winding a piece of lint around my finger, wiping the surface dry with this, and then applying the resin. This I have found to answer perfectly well. Even if you do experience some difficulty in the application of the varnish, I advise you to use it.

I have had several patients during the past winter, among the profession, and have had abundant opportunity of testing its value. I shall be exceedingly proud if any of you gentlein future times will try the effect of this varnish.

There are only two other points connected with the local treatment of diphtheria that I will call your attention to, namely, the use of steam and ice. Both are very useful, but have to be employed under different circumstances. Ice in the early stages of the disease is often of the greatest comfort to the patient. Small pieces should be frequently taken into the mouth. Its effect is to restrain the inflammation, and if we can do this, we at once diminish the vigor of the attack; so that in the early stages of the disease, you cannot use too much of it.

Now as to the use of the very opposite remedy, steam. I believe it was first recommended by Drs. James, of London, and Oertel, of Munich. Germans always give a philosophic reason for the use of remedies recommended by them. Dr. Oertel says that the effect of steam is to separate the false membrane. True it is that in certain stages of the disease steam is very useful. This is when the false membrane is beginning to separate. I do not believe it is of any use in the earlier stages; if used then, I think it lowers the powers of the patient. Hence you will have no difficulty in deciding when to use ice and when steam—you are to use ice in the early part of the disease and steam later.

You can make use of some antiseptic, such as carbolic acid or salicylic acid, in conjunction with the steam. It is especially desirable to do this, because at this period of the disease you will find a certain amount of gangrene, and consequently a good deal of fetor. Antiseptics will correct this. These constitute all the points under this head which I will bring to your notice.

I will make a few additional remarks in regard to the performance of tracheotomy in cases of diphtheria. I am very proud to see Dr. Cohen, of Philadelphia, present, who has published one of the most complete essays on tracheotomy in the English language. He concludes that the operation should be performed at an early stage. My advice is the same; operate early. When there is considerable false membrane in the larynx. when you see the falling in of the sternum with each inspiration, then is the time for tracheotomy. You should always examine the condition of the thorax, and the posterior part of the chest, to see that the air is going into both lungs. If you find one lung is obstructed I would not operate. But still there are cases where every indication seems to be against operating, and yet the life of the patient is saved by operating. Under such circumstances the question is not whether you or the parents will take the risk, but whether the parents or friends are sufficiently sensible, should the patient die, not to attribute the death to the operation. It is perfectly useless to perform an operation where there is scarcely any chance for recovery, and the probabilities are that it will bring into discredit the whole domain of surgery. You should consider not only the interests of the child but the interests of surgery for in this way only are we to retain the respect and confidence of the public. If you perform trachetomy, as a rule, perform it early. By so doing many cases that otherwise would result fatally will recover. Of course, if you operate very early a good many cases will recover, for the reason that you will probably operate on cases that do not require it.

By adopting the plan of treatment I have hastily sketched, I feel confident that you will meet with your share of success in handling these cases, and will rescue many patients from imminent death.

URBAN AND RURAL MORTALITY IN GERMANY.

A paper read by Professor Finkelnburg at the recent Congress in Cologne, of the Lower Rhenish Sanitary Association, deals with the above question, and is intended specially to prove that cities are not, of necessity, less healthy than country districts, and that where such is the case, the fact can be usually attributed to local influences affecting the hygienic or economical condition of the population. The society in question deals with a district rich in manufacturing industry, and, at the same time, possessing a sufficient proportion of rural population to give the comparative statistics of mortality a practical value. As an instance in support of the theory propounded, it is stated that in the Coblentz and Treves districts the mortality in the rural population is greater than among the denizens of towns.

Following the thread of the author's arguments, we find that the analysis of adult male and female mortality, and the comparison of such results with those affecting infantile mortality, bring before us a variety of interesting facts. The male population of cities is described as being less healthy than the female population, the diseases contributing to this result being mostly consumption, and affections of the heart, the brain, and the kidneys. Taking, however, for a standard the city of Cologne, statistics prove that the mortality amongst females over thirty years of age is not only less than that amongst male adults, but is less than the female death rate for the same range of age in the rural parts of the Cologne districts. Bonn (situated at a short distance) also shows similar general results.

The annual mortality amongst men of thirty to forty years of age is, in Cologne, on an average, nineteen in one thousand, while that of the opposite sex is only twelve. As to consumption, there are no statistics given as to the comparative deaths for the two sexes, but it is stated that from the age of twenty upwards the deaths of men from this cause show a marked predominance in the centers of the textile and metal industries—Gladbach, Crefeld, Solingen, Remscheid, etc. That this circumstance is connected with the industrial activity of these towns is forcibly suggested by the fact, that in the country districts, where labor of a similar character is carried on, the same result presents itself. The average annual mortality from this cause in the whole of Prussia is thirty-two to thirty-three in ten thousand. In the Rhenish cities it is fifty, while in the particular instance of Gladbach it is as high as seventy-six. Epidemic diseases seem to show an excessive urban mortality only in the case of young children, as compared with the results in the country.

The question of infantile mortality is dealt with rather fully, and, according to the figures quoted, is at its highest point where the population is most dense, and where the proportion of female labor in factories is the most considerable. The cities which unite these two unfavorable conditions in the highest degree are Cologne and Aix-la-Chapelle; the former containing seven thousand female operatives, and the latter eight thousand. The numbers of children who die before they are twelve months old are, respectively, twenty-four and twenty-five per cent of those born, and this rate compares unfavorably with those of Coblentz and the smaller towns, where the proportion is from eleven to twenty-one per cent. There seems, however, to be a more favorable state of things in those districts where domestic labor (weaving, etc.) is general, although some of them are not so favorable to the life of adults. Thus, it is proved with a certain amount of clearness that infantile mortality is increased or diminished by the dwelling accommodation in towns, and by the amount of parental care which circumstances permit. This result is not a sure guide as to some diseases, as, while diarrhœa and similar ailments contribute a notable proportion to urban mortality in general, the deaths from diphtheria and whooping cough in the Rhine provinces were more numerous in the country than in the various towns.

In conclusion, Professor Finkelnburg called attention to the fact, that the mortality in cities usually increases in the summer and autumn, while a similar augmentation of the death rate is, as a rule, noticeable in the country during the winter and spring. He also adverted to the improved sanitary condition of Frankfort-on-Main and other German cities, urging upon the members of the Association to combine their efforts to make the authorities of the Rhenish cities equally alive to the necessity of sanitary reform.—*Sanitary Record.*

CURARE IN EPILEPSY.

Neurologisches Centralblatt, January, 1882. (*Practitioner*, June, 1882.) Kunze has before reported thirty-five cases of epilepsy treated with curare, of which nine are reported cured. Now Edlefsen has been using Kunze's formula which is:

℞.	Curare	0.5.
	Distilled water	5.0.
	Hydrochloric acid	gtt. i.

Digest for twenty-four hours and filter. One-third of this is given hypodermically every five days. The solution causes no pain, reflex or toxic phenomena. Two cases of hystero-epilepsy did not improve under the treatment. Six cases of epsilepsy were not permanently improved; three were improved, and three permanently cured (time elapsing not stated).

Kunze recommends abandonment of the treatment if four or five injections are not beneficial.—*Journal of Nervous and Mental Disease.*

FATAL CASE OF POISONING FROM ERGOT OF RYE.

Dr. Davidson (*Lancet*) gives the following interesting report, which, on account of the rarity of accurate description in cases of poisoning by this drug, we reproduce in full:

On Saturday, June 3, about 4 P. M., I was called to see M. M., aged twenty-eight, lately a hospital nurse. She was said to have "burst" a blood-vessel. On entering her room I observed a basin of reddish-brown pultaceous matter, said to have been vomited by the patient about 8 A. M. I was informed she had vomited something like it a few days previously, and, complaining of lumbar and arthritic pains, had exgressed a fear that she was going to have rheumatic fever. Late on the previous evening she had passed a very hard motion, and a quantity of urine which looked like blood. About the same time, also, she had vomited half a pint of blood. During the evening and morning she gradually became worse.

On my arrival the face, eyes, neck, and upper portion of chest were intensely jaundiced. The intensity of the jaundice diminished from above downward, till at last it disappeared altogether. She had a pair of genuine "black eyes." The rest of the body had a natural appearance. The expression was anxious, and the general condition maudlin. Occasionally fits of stupor and apathy ensued. There was no alcoholic odor, but during the evening a distinct etherish smell could be perceived. The lips were slightly swollen, and covered with dry black blood. The tongue was also slightly swollen, dry black blood covering the base and middle, whilst the edges and tip seemed of darker hue than natural, although moist. She lay chiefly upon her right side. The skin was pale and cold, but, although the thermometer only registered 96° in the axilla, the temperature there seemed about normal. The pulse was most peculiar. It seemed to indicate its presence to the finger, and disappeared before I could judge of its character; counting it was impossible. The respiration was noisy and labored, and 48 per minute. Thirst intense; appetite gone. She swallowed with ease. The bowels had not acted since the preceding night, nor had she passed any urine. There was decidedly harsher breathing at the base of the right lung than elsewhere. The action of the heart was as peculiar as the condition of the pulse. The area and force of the cardiac pulsation were both increased, whilst the impulse against the chest walls was of a distinctly rolling character. I carefully counted the rate, and found that 150 cardiac cycles were completed in a minute. The sex, age, appearance of patient, and of vomit, immediately suggesting not only poisoning but a motive, I examined the breasts and found milk in them.

The patient volunteered no information; but, on being questioned, admitted having taken "two handfuls" of ergot, and also that this had been going on for several months. Subsequent events and the postmortem examination showed that she had been taking the liquid extract for several months, and had quite recently taken two handfuls of the powder, not infused. The case seemed utterly hopeless; the exhaustion, hemorrhage, and chronicity forbade the use of either stomach-pump or an emetic; and antidotes seemed equally useless, so I reported the matter to the police.

For my own protection I decided to call in Dr. Carter, a neighboring consulting physician. Before I left a distinct uterine contraction occurred. The consultant recommended liquor chlori as an antidote, and it was decided to accelerate labor as a possible means of discharging the force of the poison through an active uterus. At 7:30 I introduced a number eight bougie-à-boule with great ease, but had to reintroduce it at 8:30, as she had removed it in one of her many paroxysms. At 9:15 the os uteri admitted one finger, so I introduced Barnes' smallest bag. I did so with ease; and twenty minutes later, finding the os less firmly encircling the bag, I removed it, and the membranes immediately followed. I ruptured them, and the head having presented, with little difficulty seized a foot. (Shortly before this brandy was given, but for the first and last time it regurgitated through the nose.) Whilst attempting to bring down the foot the breathing became easier and slower, until, just as I was about to deliver, it ceased altogether. Shortly before death the respiration was 56 per minute, and from 6 P. M. the pulse could not be felt at all. The stupor had gradually deepened, but every now and then paroxysmal movements would occur whilst the patient would sit up in bed. She understood what I said to her occasionally, and was always obedient.

Thirty-two hours after death I made a postmortem examination. The body presented much the same appearance as during life, save for the welling out from the mouth and nose of a greyish-black and gritty matter, which was very fluid. The body was well nourished. Greenish streaks were becoming visible on the abdomen. Cadaveric rigidity was passing off. The brain was remarkably firm, and perfectly free from hemorrhage. None of its membranes seemed diseased, although it appeared rather looser in the cranial cavity than natural. The temporal artery bled profusely in making the preliminary incision through the scalp. In opening the abdominal and thoracic cavities an enormous quantity of fat was exposed, and embedded in it could be observed innumerable small hemorrhages. The peritoneum was also covered with these hemorrages, and the bowels were everywhere in the same condition, besides being extensively bound down by adhesions. The abdominal cavity contained a very large amount of blood, and this rendered the detection of ascitic fluid impossible. No large vessel was ruptured so far as could be seen, the hemorrhage being seemingly the result of an enormous number of small vessels having ruptured. The blood was fluid. The diaphragm was arched. The liver did not seem altered in size, but on section it was dry, bloodless, waxy-looking, and of a slightly dirty yellow color. It was easily lacerable. The spleen seemed rather smaller than usual, and, on section, blood of a dirty red color oozed copiously from it. The kidneys were enlarged, pale, and waxy-looking, and their capsules easily separable. The stomach exhibited ruptured vessels in its walls, and contained a considerable quantity of the same fluid as came from the mouth and nose. The bowels were in the same condition. The bladder was quite empty. The uterus was about the size of an adult head. Its walls were stained all over with dark effusions, and on opening its cavity a fœtus of about five months became visible. There was neither liquor amnii nor blood in the uterine cavity. On removing the ribs the pleura was found non-adherent, but the lungs presented a remarkable appearance. They were rather anæmic, and this gave them a steel-grey appearance. On this as a ground were scattered innumerable irregular dots of the size of a small pea. These were hemorrhages. The right lung was especially congested at its base. The heart was enlarged, having a large quantity of fat on its anterior walls and sides externally, but the valves were healthy. Its cavities were practically empty.

A CASE OF HERMAPHRODITISM.

On Monday last one of the patients in the British Lying-in Hospital was delivered of a living child, which upon examination was found to present the characteristics of so-called spurious hermaphroditism. When the child was seen two days after birth the condition of the external genitals was found to be as follows: There is a large penis or clitoris, with a prepuce bound down by a strong frænum. Immediately below this is a small canal capable of admitting a good-sized probe, and from which urine is voided. The penis (?) is of natural size for a newly-born infant, and presents at the apex a well-marked depression, resembling the external urinary meatus. The scrotum (?) is divided, and resembles the female labia, but no trace of testes can anywhere be discovered. So equivocal are the appearances that it is at present impossible to determine the sex of the child. Dr. Fancourt Barnes, whose patient the mother is, seems to incline to the opinion that the type is rather feminine than masculine.

If the child live, it will in all probability be shown to the members of the Obstetrical Society, when the problem of the sex may be solved.—*Lancet.*

URINARY CALCULUS WITH A BULLET FOR A NUCLEUS.

Surgeon-Major Robinson of the Bengal Army reported the following to the Dublin Pathological Society:

"When I was abroad in India I operated on a man for stone, and on removing it I was struck by its extreme weight. I made a section of it, and found an elongated bullet forming a nucleus. The history of the case was: The man had taken part in a raid on a neighboring village. The attacking party was repulsed. When my man was clearing off he was hit in the right gluteal region; the bullet penetrated the bladder, passing through the right ilium. He had no trouble of any kind until nearly two years afterwards, when all the symptoms of stone appeared, and he came to me to be operated on. "The patient was a hill man from beyond the north-west frontier. About the beginning of 1879 he received a bullet wound. It is uncertain whether the bullet penetrated the bladder at once, or worked its way into it afterwards. However it gave him no uneasiness until the beginning of 1881 when all the symptoms of stone appeared. He came down from the hills into our territory and was operated upon. He got a dose of opium after the operation. His bowels were not moved until the next evening; while at stool a peri-rectal abscess burst, discharged one and a half pint of pus; hectic fever set in at once and rapidly carried him off. I was unable to get a postmortem. I consider I must have given the sack a nick when withdrawing the knife, and the slight straining at stool burst it.—*Dublin Journal of Medical Science.*

CARBOLIC ACID IN THE TREATMENT OF CARBUNCLE.

Dr. Charles Taylor, Medical Superintendent, Lunatic Asylum, Paramatta, N. S. W. in (the *Australian Medical Gazette* for December 1881), strongly recommends the injection of carbolic acid in the treatment of carbuncle. He says, "I have for some time in my practice discarded the use of the knife when treating cases of carbuncle, convinced that it is now unnecessary to inflict the severe pain of free crucial incisions in angry and highly inflamed tissues, and that the cure of the disease is hastened, if it be not at once arrested, by the use of carbolic acid. I have treated six typical cases of carbuncle, all seated about the nape of the neck, and all occuring in men of good bodily health and in good condition. Five of these cases were treated, within the first three days of their existence, by injecting pure carbolic acid into them. The sixth case had been submitted to free incision by my colleague before I used any acid to it. The result is that the five cases treated without incision rapidly recovered, and the other is now only closing in after dragging through the usual dilatory course of extensive sloughing and profuse suppuration. In those cases injected with carbolic acid the carbuncle appeared rapidly to put on altered and healthy action, laudable creamy pus was secreted, pain disappeared, and cases that would in all probability have lingered through two or three or more weeks of incision, pain, poulticing and suppuration were happily terminated in a few days, leaving neither scar or blemish behind." Dr. Taylor injects into the carbuncle, by means of a hypodermic syringe, five or six drops of pure fluid carbolic acid. He recommends the skin of the surrounding region be smeared with oil or cerate to protect it from the escharotic influence of any acid which may escape during the operation. He states that little or no pain is manifested when the acid enters the tumor. When the acid is discharged into the swollen part, the patient at once becomes comfortable, and experiences a glow of pleasing heat passing throughout it. The carbuncle either quickly "aborts," discharges a small quantity of pus, and ceases to trouble, or runs through a few days of active suppuration, secreting abundant and healthy pus, and speedily terminating. In all his cases he states that he has found one application of the acid sufficient, aided by the usual linseed-meal poultice fomentation, and such constitutional remedies as the individual case may suggest, namely, active alterative aperients, quinine, iron, etc.—*Edinburgh Medical and Surgical Journal.*

SUCCESSFUL TRACHEOTOMY IN ARTICULO MORTIS.

Dr. Crabb (*British Medical Journal*) reports the following: A boy, aged four and one-half years, had been suffering a few days from diphtheritic sore throat. Iron and chlorate of potash were prescribed; but he did not take his medicine as he ought and the disease progressed, till the symptoms became so alarming that tracheotomy was evidently soon to be required. This was on January 8, and at noon of the same day I was sent for hurriedly, as the child was dying. On my reaching him, he was certainly moribund; the pulse was imperceptible, the lips blue, the eyes glazed, etc.; and it was only on allowing his father to listen with the stethoscope, and satisfy himself that the heart was still beating, that I obtained permission to operate. But it appeared to be too late. I started artificial respiration, cold douches, etc., and in about five minutes the child took a deep inspiration through the tube, gradually the respiration became more frequent, till at last he fell into a quiet slumber. He was then put in a steam chamber; the exudation was picked away as it came, and the smaller tube was frequenly taken out to be cleaned. He was ordered ten minims of liquor ferri perchloridi, and eight grains of chlorate of potash in water every three hours, and he now took his medicine much better than previously. He afterwards had a good night. I was sent for in the early morning, on account of a violent paroxysm, which was relieved by cleaning out the smaller tube. In the evening his neck was much swollen from glandular irritation. On January 10, the exudation was very tenacious. I began to apply a ten per cent. spray of liquor potassæ down the pharynx, and down the tube. This was not found to answer, and a spray of sulphurous acid (one in eight) was accordingly adopted. This seemed to give great comfort. In the evening the pulse was 140. The urine contained one-fourth of albumen. On January 11 he was better; the tongue was cleaning. Digitalis and spirit of nitrous ether were added to his iron and chlorate of potash. The urine contained one-sixth of albumen. He was allowed milk diet, but no stimulants. On the 12th there was erythema in the neck, and on removing the large tube an ulcer was found underneath. This was daily dressed with boracic ointment. After this he made steady progress, and on January 19, the eleventh day after operation, the tube was removed, and henceforward his progress was uninterrupted.

The salient points of this case are these: (1) In diphtheria we may operate at the last moment with hope of success; (2) the system was drenched with iron and chlorate of potash; (3) the sulphurous acid spray was of great utility.

THE INCUBATION PERIOD OF SCARLET FEVER.

In his last annual report on the health of Newmarket Rural District, Mr. Armistead refers specially to an outbreak of scarlet fever as one of peculiar interest, as serving to throw considerable light upon the still doubtful points of the duration of the infection in scarlet fever, and also upon the period of its incubation. An outbreak occurred in a village early in the year, and the disease was carried by one of the cases to another village (Westley) where every precaution was taken. But when the outbreak was nearly ended, a man from a different part of the district (Bottisham Fen) took his wife and three children in a cart to Westley, on August 12 or 13, and stayed next door to a child who had been ill with scarlet fever for six weeks, but had finished desquamating, and was so far recovered that she and the children from Bottisham Fen were allowed to play together. They went back to Bottisham Fen on the following day, and on August 19 the scarlet fever rash was distinctly seen on all three children simultaneously. The disease spread to six other children in the Fen, and to two others in another village. With regard to the duration of the fever, Mr. Armistead states that the child at Westley sickened on July 2, the children from Bottisham Fen came in contact with the child at Westley on the evening of August 13, and the following morning—the whole of the period of exposure to infection being only about twenty-four hours—and then they returned home. To Mr. Armistead's mind these facts show that the infection of scarlet fever will last six weeks at least, and be apparently as strong at the end of that time as it ever was. As to the period of incubation on August 14th: The children were removed quite away from any source of infection; on the 19th, the rash was out; and the disease actually began on the 18th, after a period of incubation of four days, or about ninety-six hours, which is the same as Mr. Armistead has found in two former cases which he investigated.—*British Medical Journal.*

MELANCHOLIA CURED BY QUININE.

Dr. Baillarger (*Annales medico-psychologiques*, May, 1882,) reports a case in which melancholia, coming on at the time of menstruation, and, therefore, displaying an intermittent type was cured by seventy-five centigrammes of quinine. That the drug might be of value there can be but little doubt; its effects are somewhat opposed to those of melancholia. That, however, an indication was found for its use in the intermittent type of the disease, seems to indicate, in view of the complex nature of the psychoses, a very narrow way of reasoning respecting therapeusis.—*Journal of Nervous and Mental Disease.*

FORCED FEEDING AND OVERFEEDING.

Forced feeding, long used in this country and elsewhere in certain cases in which food is rejected, owing either to mechanical obstruction or voluntary refusal, has lately attracted much attention in France, as a means of nutrition in certain kinds of anorexia and intractable vomiting, especially such as are met with pretty frequently in phthisis. An interesting review has been made by Dr. A. Mayor, of the *Revue Medicale de la Suisse Romande*, of the work done in this department in Paris by M. Debove, Dr. Dujardin-Beaumetz, and others. The word forced feeding becomes in this case so far a misnomer, that there is no opposition on the part of the patient. Under such circumstances, the designation should, it is suggested, be super-alimentation or "stuffing." It will, however, suffice for the present to retain the old designation.

On October 28, 1881, M. Debove reported to the Medical Society of the Paris Hospitals the interesting and paradoxical cases of two phthisical patients in whom he had been able to supplement normal feeding, which intractable vomiting had rendered impossible, by alimentation by means of the œsophageal sound. The first patient, in the third stage of phthisis, had reached such a degree of anorexia that she rejected all food, even milk. M. Debove, supposing that the anorexia might in this, as in other affections, be independent of any affection of the gastric mucous membrane, it occurred to him to inject a quart of milk into the stomach. It was well tolerated. The treatment was renewed with constant success, and soon the dose of the food injected was increased; and from artificial alimentation he advanced to super-alimentation. Two quarts of milk, ten eggs, and two hundred grammes of scraped raw fish constituted the daily ration of the patient. Under the influence of this *régime*, the amelioration of her condition was so apparent that the treatment was immediately attempted in other cases.

When M. Debove came to the society for the first time to state the results of this new method, some of his colleagues, already cognizant of the success he had obtained in his wards, had tried the employment of super-alimentation on their patients, with remarkable results.

The method of treatment is simple enough. For this purpose, M. Debove introduces a simple œsophageal tube, and administers by it a gradually increasing quantity of food, reaching at last a very considerable amount.

The instrument which M. Dujardin-Beaumetz now recommends—an œsophageal tube reduced to half its ordinary length, and, therefore, not reaching quite into the stomach—is introduced on the stylet. It is connected by an India-rubber tube to the lower part of a glass jar, into which is poured the alimentary fluid, and in the upper part of which jar air can be compressed by means of an India-rubber ball. This vase being placed on the table, the patient can himself handle the India-rubber ball, and regulate at his pleasure the amount of food introduced and the rapidity of feeding. It is obvious that a simple tube and funnel of the simplest construction might be employed, and perhaps the simpler the better.

In a few cases, in which the stomach appears to be dilated, it may be well, in the first instance, to wash out this cavity with a four per cent. solution of bicarbonate of soda, or six per cent. of sulphate of soda. In the absence of dilatation such treatment may be omitted; and it is only necessary, then, at once to introduce the aliment into the funnel of the jar. This consists, usually, of a sort of a broth of milk, eggs, and a certain quantity of meat. M. Dujardin-Beaumetz recommends the addition of common salt. At first, finely scraped raw meat was employed, but lately M. Debove recommends powdered cooked meat for this purpose. The flesh, cut off a fillet of beef, is finely minced, pressed into a cake, carefully baked, then powdered, and passed through a silken tamis cloth. An impalpable powder is thus obtained, which resembles in flavor roast meat, and which represents four times its weight of raw meat. This is perfectly preserved so long as it is kept from wet. Its main defect is its cost, but this may be diminished by mixing it with cooked and powdered lentils.

The vehicle employed is milk, two quarts a day; or, for some patients, two eggs are added to the bouillon.

M. Dujardin-Beaumetz adds, sometimes, to the repast three or four spoonfuls of peptone, or subnitrate of bismuth, where there is intestinal irritation and diarrhœa. Certain contra-indications have already been pointed out by experience.

It might be supposed at first sight that cases of acute laryngeal tuberculosis would have been especially suitable for treatment, and likely to be benefited by it. The contrary has been found to be the case. Again, the risk of introducing the sound by mistake into the larynx is not so small as might be supposed, nor is the error always shown by great distress of breathing or aphasia. Before the injection is made, the patient should be required to breathe out, when it will be ascertained whether air is expelled through the tube.

Some patients are intolerant of the œsophagal sound, and, if this cannot easily be got over, it constitutes a serious obstacle to the treatment. Occasionally, the patient is seized with the desire to vomit, and there is a reflux of the fluid into the sound. This may often be overcome by gentleness and patience, and by the introduction of very small quantities of food at a time. In any case, it is desirable to commence with moderate doses of food, not more than twenty-five drachms of powdered meat; but at each dose this may be gradually augmented. Moreover, the individual digestive aptitudes must be considered, and the occasional individual intolerance of special foods, such as milk, eggs, or soup. Food should never be given until it has first been tested, and found to be in a perfect state of preservation.

As to the results of this treatment in phthisis, it is too early to pronounce any definite opinion; it would appear, however, that, even in the third and acute stage of phthisis, super-alimentation has prevented, at least arrested, the progress of the disease. For the rest, it is evident that a distinction must be drawn between those phthisical patients who have retained their appetite, and those who, on the contrary, are suffering from protracted vomiting and aversion to food. In such cases, striking results are recorded, anorexia giving place to appetite, sweating ceasing, and sleep returning. In some patients, an increase in weight immediately occurs, amounting to as much as from eighty to one hundred grammes a day; at the same time, the daily weight of urea increases from eighteen and twenty grammes to fifty, sixty, often eighty grammes. Thus may be noted the fabulous activity which super-alimentation impresses on the organic changes and the phenomena of combustion; and it is possible one may conceive, from this fact, that the ground is modified on which the disease is evolving.

The pulmonary symptoms undergo no less important modifications; in such cases, the cough and expectoration diminish, says M. Debove, and then disappear. The stethoscopic sounds of the bronchial tubes follow the same retrogressive course; the signs of pulmonary induration on the caverns seem to persist; but, in one case. first observed by M. Debove, in which death supervened accidentally from a traumatic injury, and in which postmortem examination was made three and a half months after the commencement of the treatment, the walls of the cavern were found to be lined with healthy granulations, and the lesions in course of repair.

Other uses of overfeeding have been suggested. Thus, in a case where the patient had suffered severe losses of blood from a polypus, and was in a state of weakness which rendered an operation dangerous, she was submitted by M. Pennel to this method of overfeeding, and in a short time her strength and appetite returned sufficiently for surgical intervention, which was followed by full success.

Artificial feeding has been employed successfully by M. Troisier, who overcame intractable vomiting, occurring in cases of convalescence in typhoid fever; and it is suggested by M. Debove in some of his cases of extreme chlorosis, when iron cannot be tolerated.

In such cases, this treatment of artificial feeding has succeeded as a means of raising the nutrition sufficiently to enable the patient to support and utilize the iron which may be administered to her.

Again, there are cases where the ordinary alimentary treatment necessary for the disease inspires the patient with insupportable disgust, which is often the case with the milk-treatment of Bright's disease, and of round ulcers in the stomach. In such cases M. Debove has employed the œsophageal sound with great advantage, dissolving, in ordinary milk, a sufficient quantity of concentrated milk-powder, and thus introducing into the stomach, in three catheterizations, the value, without the quantity, of six quarts of milk.

In some cases, M. Dujardin-Beaumetz, considering the ordinary dose of one to two tablespoonfuls of cod-liver oil, which is all a patient can take through the mouth, to be too small, adds to the alimentary broth six or seven tablespoonfuls of cod-liver oil, and in this way the number of phthisical patients who are easily and effectually able to digest it is considerable.

What may be the physiological interpretation of the fact that the stomach digests and assimalates in astonishing quantities food introduced by the œsophageal sound, which it rejects when introduced in other modes, it is difficult to say. The compression of the pneumogastric nerve by the bronchial ganglia has suggested some possible hypotheses; but none has been brought forward which can explain phenomena so much in discord with the actual theories of vomiting. Observation. however, may for the time take the place of theory.

What may be the future of this method of artificial feeding and overfeeding, it is not necessary here to predict. It is certain that its application will be limited, and its usefulness only occasional. It is our purpose here, however, only thus briefly to note the very interesting clinical observations which have been brought forward by French physicians in this matter.—*British Medical Journal.*

ON THE NATURE, MODE OF PROPAGATION, PATHOLOGY, AND TREATMENT OF SCARLATINA.

In the *American Journal of the Medical Sciences* for July, 1882, Dr. John A. Octerlony publishes a valuable paper on this subject, based upon the careful study of fifty-eight cases of scarlatina occurring under his own observation. Under the discussion of the nature of the disease he advocates the theory of Eklund, of Stockholm, whose observations as to the parasitic nature of the disease he says he has repeatedly confirmed. In the urine of scarlatinous patients there is constantly present an immense number of peculiar cellular bodies which have received the name of plax scindens. They consist of sporoidal cells, flat, oval, or round, and either colorless or yellowish white; they have a distinct cell-wall, and a nucleus of a clear brownish color. Sometimes the nucleus contains a very minute nucleolus. As seen floating about in the fluid examined, they often exhibit rotatory or screwing or see-saw movements. It has been further observed that these little bodies multiply first by division of the nucleolus, then the nucleus divides, lastly the cell itself undergoes division; mycelium filaments never develop from these cells, nor do they arrange themselves in beads or in the zooglœa form. These bodies are always found in the blood of scarlatinous patients, as well as in the urine, but are not known to occur in any other disease. Hence it would appear that the infectious agent of scarlatina has been found.—*Dublin Journal Medical Sciences.*

TUBERCULOSIS OF THE TONGUE.

Dr. Thomayer, of Prague, describes three cases of tubercular ulceration of the tongue. In one a wide fissure existed about the middle of the dorsum, with yellow-coated base, and prominent coarse tubercular nodules at its margins. In both lungs there was widespread tubercular disease. In the second case the ulcer occupied the right half of the tip of the organ, and was characterized by numerous firm granulations in part of its base, the rest being covered by a thick yellow layer; the margins of the ulcer were also firm, beset with grey and yellow granulations. The ulcer bled slightly and was not benefited by treatment. The third case was similar, only the ulcer was seated on the frænum. It was treated by the topical application of chloride of zinc, which produced only temporary benefit in the breaking down of the nodules. Microscopical examination was made of the diseased organ in the two fatal cases. The ulceration had destroyed the mucous membrane and submucous tissue, and the base was formed by a thick layer of small round cells, intersected here and there by muscular bundles. Beneath this layer there spread into the intermuscular spaces masses of similar cells, which, under high powers, were found to consist partly of giant-cells, and to be separated by the delicate stroma of tubercle. Some isolated tubercles were found deep in the substance of the organ. The muscular fibres themselves seemed invaded by the cell-growth, which was not limited to the intermuscular spaces. There was proliferation of muscle nuclei and of endothelium of the blood-vessels. Dr. Thomayer says that the extent of the lesion demonstrates the futility of treating these ulcers by caustics, and points to the advisibility of excision.—*Lancet.*

MISCELLANEOUS ITEMS.

Christianity begins in soap and water.

The bath is better for irritable babies than soothing syrup.

Adam Clark (the commentator) said: "Were I compelled to offer a sacrifice to the devil, it should be a hog stuffed with tobacco."

An old minister's blessing over roast pig: "O Lord, if thou can'st bless under the gospel what thou did'st curse under the law, bless this pig."

On the Sale of Medicine.—A Scotch doctor had given an overdose of ipecac, and it killed his patient. On his morning visit, an old woman met him at the door and told him he was not at all to blame, *as the medicine had wrought powerfully to the last,*

Dr. Chapman asked Mr. Swain (the inventor of the Household and Universal Panacea) why quacks so often flourished and grew rich. Mr. S. replied: "How many people know anything of anatomy and physiology?" "Perhaps one in a hundred," replied Dr. C. "He is your patient, and the ninety-nine are mine," said the vendor of the nostrum.

Spanish Proverb.—The Lord has placed in the world a great variety and abundance of delicious food, to gratify the palates and to minister to the wants of all mankind; while the devil, ever intent on mischief, has sent along a lot of ignorant, miserable cooks *to spoil it all.*

The *Michigan Medical News* in a sly and cowardly manner fomented and helped on a certain malpractice suit in the hope of bringing discredit upon the medical department of the University of Michigan in general and a certain prominent professor in particular. Unfortunately for the *Michigan Medical News*, the result was just the reverse of what it intended. The University and its faculty came out of the ordeal in flying colors, and from all quarters, legal as well as medical, we have heard nothing but the highest praise of the manner in which they defended themselves, and the profession from obloquy and injustice. While on the other hand we have heard only strictures and condemnation and ridicule in regard to the figure which the *Michigan Medical News* and its allies cut in their relations to the case in question. And now the *Michigan Medical News* whines like a whipt cur over the result, and no doubt, its erudite editor is once more reminded of the oft quoted wise saying of Robert Burns:

"The best laid schemes o' mice and men,
Gang oft awee."

The Articulations.—The following ingenious arrangement of the names descriptive of the various articulations, is communicated to us by Dr. James L. Little, Professor of Surgery in the University of Vermont, and of Clinical Surgery in the University of New York:

Enarthrosis, bone to bone,
Femur, Acetabulum;
Ginglymus, the hinge I see,
Forwards, backwards swings the knee.
Arthrodia, near the end,
Glide along the foot and hand;
Synchondrosis, we allege,
Calls for costal cartilage;
Syndesmosis—ligament,
Binding bone to bone is meant.
Syssarcosis—lower jaw,
Flesh from ribs to scapula.
Suture, a stitch withal,
Coronal, lamdoid, sagittal.
Harmonia—Tipperary,
Rhymes with supramaxillary.
Schindylesis—plowing done—
Vomer in the sphenoid bone.
Gomphosis sets all things right;
Tooth in socket pretty tight.—*Exchange.*

THE

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ORIGINAL ARTICLES.

A CASE OF PERITONITIS.

BY WILLIAM AXFORD, M. D., CHICAGO, ILLINOIS.

An interesting case of peritonitis, illustrating admirably the tolerance of opiates in this disease, having recently occurred in my practice, I think it may possibly be worthy a place in the columns of THE PHYSICIAN AND SURGEON.

Miss M., nurse, aged about thirty-two, robust and well nourished, was suddenly taken with a severe chill, followed by intense abdominal pain, vomiting and tympanitis. Abdomen painful on pressure, bowels constipated, temperature above normal, pulse much accelerated. No cause having been made out, a diagnosis of idiopathic peritonitis was made. No relation between the attack and the menstrual flow could be ascertained. The physician in charge prescribed morphia in pill form, hot applications to the abdomen, good feeding and stimulants. Being called from the city, he turned the case over to me on the sixth day of the disease.

On entering the room the characteristic appearance of a case of peritonitis was observed. She lay on the bed with thighs flexed on the abdomen, face anxious, pupils dilated, respiration thoracic, temperature 103°, pulse 110, abdomen tympanitic and very tender.

On inquiry I found that she had vomited incessantly so that neither food nor medicine had been retained. She had not slept for five nights. Being a nurse and dependant on the charity of her physician, she had not informed him of this state of affairs, fearing she would be too much trouble to him.

Realizing at once the gravity of the situation, a hypoderme of one-half grain of morphia was given, the hot applications ordered continued, and the bowel ordered cleaned out before giving a nutritive enema.

Returning in an hour, the pain had abated but little, pupils still widely dilated. Gave at once three-quarters of a grain of morphia. I selected the right deltoid muscle for this purpose, and each time plunged the needle into the muscle directly. Ordered an enema of one ounce of whiskey and three ounces of beef extract every six hours.

Returning at the end of another hour, I found things somewhat improved, but still considerable pain, pupils not much affected, respiration not sensibly lessened. Gave one grain of morphia hypodermically. During the first twenty-four hours she got six grains of morphia. Vomiting still continued, but was lessened in frequency.

Having reduced the respiration to eight or ten per minute, the pain being completely eased and the pupils well contracted, I decided to hold her there, regardless of the amount of morphia required, trusting to her good physical condition and the nutrient enemata to bring her through, but not looking at the case as a very hopeful one. She had got a little rest, but most of the time was wakeful.

Quinia bi-sulphate was now added to the injection, so that each time she got a hypoderme of morphia she also got a grain of the quinia, getting in the twenty-four hours from six to ten grains. Every effort was made to stop the vomiting, but all the remedies that I knew of failed completely.

The night of the ninth day, after having given seven and and one-half grains of morphia in the last twenty-four hours, no cessation of the vomiting having occurred, I had almost determined to turn her over to the priest, she being a Catholic, when finding myself without medicine I went for some, returning in an hour. To my delight I found that defervescence had occurred in my absence, temperature 98.3, pulse 80, and very good, considering the amount of suffering endured. She still vomited, but the rectum was tolerating the enemata well and my prognosis was favorable. She had not slept more than ten hours during the entire course of the disease.

By a continuation of the enemata, the morphia being gradually lessened, she was carried through the stage of debility, though she vomited more or less for a long time. Later an abscess formed in the neighborhood of the cæcum, and opened into the bowel, the contents being discharged per anum. She finally recovered.

But that deltoid was well worth seeing. It looked so tense and swollen, was filled with so many needle holes, and displayed so many of the hues of the rainbow that I did not know what the result would be. Leaving it to nature and applying soothing lotions, it came out all right, not a drop of pus being formed, so far as I could determine. Knowing that a great number of injections would be required, it seemed best to confine them to one place than to have the entire body covered with sore spots. This case is not open to the objection that all the opiate was not absorbed, because here it was all given hypodermically. The largest amount given at any one time was one and one-half grains, and during twenty-four hours, seven and one-half grains.

EDITORIAL BRIEFS.

ATTENTION is called to Dr. Yandell's letter in this issue. It is evident that the editor of the *Michigan Medical News*, in order to appear witty, did great injustice to Dr. Yandell.

THIS number terminates our fourth volume, and as we have a few subscribers who are in arrears for the current year, we earnestly request that they remit promptly; and we ask all who intend continuing with us to send in their subscription for the coming year.

THE New York Pharmacal Association is furnishing its well-tried and well-approved lactopeptine in a number of new forms, as liquid lactopeptine, wine of lactopeptine, and lactopeptine with various tonics. These make the administration of this valuable digestant more pleasant.

W. H. SCHIEFFELIN & COMPANY, have received great, but well merited, praise, both at home and abroad, for their pills and granules which are unsurpassed. Mr. H. B. Parsons, formerly of the University of Michigan and later of the United States Agricultural Department, is now chief chemist for this firm. Mr. Parsons' skill as a pharmacist is devoted wholly to their preparations.

WE desire to call attention to some valuable medical preparations. Messrs. Wyeth & Brother are now furnishing tablets of bisulphate of quinine, which are readily soluble, and for this reason much more efficacious than the ordinary sulphate. We have used these pills and believe that two grains of the bisulphate are fully equal in therapeutic effect to three grains of the sulphate. The same firm are preparing other medicines in elegant pellets. Among these are pellets of Dover's powder, five grains, each; potassium chlorate, five grains; ammonium muriate, three grains; quinquinia, two grains, etc.

DR. H. B. BAKER, of Lansing, has remodeled his proposed medical bill which appeared in this journal two years ago, and will present it to the legislature which assembles in January. In many respects the bill is a wise one. We hope that it or some better bill will be passed, but we are not very *hopeful* on this point. During the last two sessions of the legislature, we gave much time and energy to this purpose; but we found that the physicians of the state were so divided among themselves on account of petty jealousies, unworthy the members of a learned profession, that no concerted action was taken and the necessary result was failure.

WE gladly give place in this issue to Dr. Gilchrist's letter. Our authority for the statement of last month, was a speech made by Regent Cutcheon some months ago. The Regent stated that delegation after delegation of homeopaths visited the Board of Regents and requested the removal of Dr. Gilchrist on the ground of his inability to compete with the Professor of Surgery in the old school. However, we did Dr. Gilchrist injustice in saying that he was removed at the solicitation of a delegation from the State Homœopathic Society. As he shows in his letter, he resigned, and the solicitations for his removal did not come from the State Society. We refer Dr. Gilchrist to Regent Cutcheon as to the statements of the latter in the speech referred to.

THE old friends and classmates of Miss Howard will be interested in the following from Stoddart's *Review:*

"Much has recently been written on the labors of medical women in India, and we find that such work is not without its reward also in China. According to the *Celestial Empire*, in the summer of 1879 the wife of Li Hung Chang, the great Viceroy of China, was dangerously ill at Tientsin, and foreign medical assistance was called in. Chinese etiquette forbade the two doctors engaged obtaining sufficient knowledge of the case for treatment, and Miss Howard, an American lady with a medical diploma, was at once called in. Under her care Lady Li soon recovered. The result of the successful treatment of the illustrous Chinese lady, was the establishment of a large hospital, under a foreign physician, the funds for which were provided by voluntary contributions from the native literati and gentry. The institution has just been opened by the Viceroy himself. When the news of Miss Howard's success reached America a wealthy gentleman of Baltimore subscribed funds to build a hospital for Chinese women at Tientsin, and the two buildings —one erected by Chinese, the other by American philanthropy —now stand side by side in that town."

Miss Howard is remembered by her teachers and fellow-students as an intelligent, unassuming, womanly woman.

MEDICAL NEWS.

THE Paris correspondent to the *Lancet* gives the following conclusions of Dr. Bourneville on the inhalation of bromide of ethyl: That it easily arrests hysterical attacks; that if given at the commencement of the tonic stage of epilepsy it generally arrests the fit, and that if inhaled daily for one or two months epileptic fits will be diminished in frequency.

J. WILSON, M. D., (*Lancet*) has observed that in remitting fevers, if no complication exists, the temperature may rise to 104° or 105°, with a normal pulse, or one but slightly increased. As soon, however, as pulmonary, hepatic or cerebral complications occurred, the pulse immediately rose much above the normal. This is an important point in the early diagnoses of complications in these fevers.

SALICYLATE OF SODA IN TONSILLITIS.—The *British Journal of Medicine* gives an article by Edward Mackey, M. D., which calls attention to the value of salicylates in acute tonsillitis. The effects are best shown in cases caused by cold and damp. It is to be given after a free dose of some preparation of mercury. Dose ten to twenty grains every four hours, prescribed with liquor ammoniæ citratis, with which it forms a clear colorless solution.

WORDS OF ENCOURAGEMENT FOR WOMEN PHYSICIANS.—In his inaugural address at the opening of the ninth session of the London School of Medicine for Women, Dr. Dupré expressed his belief that the want felt by some women for women practitioners was a reasonable one, and that women were capable of becoming efficient medical practitioners. He thinks they excel in certain qualities which are of special value in the medical profession, as a stronger sense of moral responsibility, greater tenderness, and a greater degree of conscientiousness.

THREAD-WORM IN CHILDREN—EFFECTS AND TREATMENT.—M. Archambault said in some clinical remarks, made at the Hospital for Diseases of Children, Paris, that the small so-called thread-worm was the cause of many troubles in children. Very severe itching, sometimes so severe as to make children cry, which is chiefly nocturnal, characterizes the presence of the worm. Its abode is in the lowest part of the rectum. His treatment is as follows: Administer an enema, for five or six consecutive evenings, of lime water. If this is not sufficient add a little perchloride of iron. The enemata should be sufficient in quantity to pass as far as or even beyond the sigmoid flexure of the colon, so as to destroy any worms which may have crept beyond their usual site.—*Medical Times and Gazette.*

TYPHOID FEVER FROM POLUTED WATER.—Thirty-three of the fifty-seven families that constitute the inhabitants of East Cowick, England, used water from a public well, which had a leak leading into it from a drain which passed within a few feet of its wall. Twenty-four of these thirty-three had cases of the fever, while the disease appeared in only three of the twenty-four families that did not use the water. Those attacked that had not used the water, had acted as nurses in the other families, and evidently got the infection from the excreta of the patients nursed. This shows that physicians pursue a dangerous course, if they act upon the belief that gastric, enteric or typhoid fever, are not infectious.

CORRESPONDENCE.

MALARIA IN SKIN DISEASES—A CORRECTION.

Some time since the following paragraph appeared in the *Michigan Medical News*, and has been widely copied in the medical journals of the country:

"A century ago John Hunter divided all skin diseases into three classes, one of which is cured by mercury and the iodides, a second by sulphur, and a third class which the devil himself can't cure. Dr. L. P Yandell, who quotes Hunter as above, is given credit for a much less complex classification than even this. He attributes all skin eruptions to malaria. Quinine is a specific for malaria; ergo, quinine is the remedy for all skin eruptions.—Q. E. D."

I trust that my confréres of the press will do me the kindness and the justice to publish the correction now given, as the matter is not only one of personal interest to the writer, but is of scientific interest to the profession. The subjoined extracts are from a supplement to a report read to the American Dermatological Association, September, 1877. A copy of this report will be gladly sent to any one desiring it:

"From the criticisms which have been made on my views, I find that I have not succeeded in making myself perfectly understood. What I have contended for, and what I have reiterated, is simply this: Malaria is *the chief source* of *acute* skin disease. Scrofula is *the chief source* of *chronic* skin disease. The more inveterate cases of skin disease are often due to the coëxistence of these two things. The specific exanthems, of course, are not included here, but I contend that their progress and termination are often largely influenced by the presence of malaria, or struma. *I do not claim* that malaria and struma are the *sole* causes of the dermatoses. Indeed, *many* of the dermatoses may exist *independently* of *malaria* or *struma*, and most frequently some exciting cause is necessary to develop the cutaneous eruption. Among the exciting causes are irritants, injuries, insufficient or improper ingesta, vicissitudes of temperature, alcohol, dentition, menstruation, parturition, lactation, etc. The proofs of the truth of my views are, in the first place, that the diseases of the skin are cured more certainly and more quickly by the antimalarial remedies on the one hand, and by the antistrumous on the other, than can be done by any other line of therapeutics; and in the second place, that careful and painstaking investigation will, in the majority of dermatoses, make apparent the existence of the malaria or the struma, as the case may be.

"In conclusion, I desire to impress upon the reader that my views *are not confined to the skin diseases.* What produces disease here will produce it in all other organs of the body. What is true of dermatology is equally true of gynecology and ophthalmology and otology, and it is just as true of the diseases of all the other regions of the body."

Subsequent observation has confirmed my belief in the correctness of these views. LUNSFORD P. YANDELL.

LOUISVILLE, KENTUCKY, November 20, 1882.

CAUSE OF DEATH OF FŒTUS IN CASE REPORTED BY DR. LEWIS.

EDITOR OF THE PHYSICIAN AND SURGEON: In your issue of Number XI, first page, the writer has unwittingly accounted for the death of the fœtus, although unable to account for the eclampsia. Had he omitted the use of ergot and forceps, and given hypodermically veratrum viride and aconite and *waited* for pains, he might have saved the child, and certainly controled the convulsions. Respectfully, H. C. HUNTSMAN.

OSKALOOSA, IOWA, November 4, 1882.

THE BAKER MEDICAL BILL.

MR. EDITOR: *Dear Sir*—Permit me to write you in regard to the passage or rather the introduction of medical bills at the next session of our legislature. Dr. H. B. Baker, of Lansing, Michigan, has already proposed a bill which will be introduced. The "Baker bill" is a good one; with two exceptions, (1) It allows those quacks that are *now practicing*, the same privileges as a regular graduate; (2) The bill proposes to establish a "board of examiners" to qualify all who may apply, *after* this bill becomes a law. This board will be an extra expense to the State, and then it takes away the powers of the medical department of the State University.

Now, I say, let us have a "Medical bill" so framed that it will operate upon the quacks *now*, that it will protect regular graduates, the medical department of our University, and the people as well.

What are our institutions for, if they are not to elevate the people in the scale of knowledge? If the people are allowed the same rights that are delegated to the institution of medicine, then I say let us abolish this department of medicine and I might add the department of law.

If there is any one profession that requires a previous preparation and knowledge more than another, it is the profession of the science of medicine.

I think it is just and right for the people to demand such a law that will protect them from a great amount of deception and quackery.

The people have delegated their rights to the faculty in all the various branches of learning at the University, to the end that they will instruct and qualify all those persons who come within its walls, and also (if they possess sufficient knowledge) to grant or confer upon them, the various degrees belonging to the various departments.

According to the "Baker bill," the people will be taxed extra for the *powers* and duties already conferred upon the faculty and regents. When the faculty fails to perform all the duties pertaining to it, then it will be time to create another faculty or board of examiners.

If our profession is to be respected by the people, and our institutions are to be honored by us and future generations, let us protect, elevate and honor them. But I have confidence in the wisdom of the legislature to discuss this matter fairly and give us a law that will be an honor to us, to our institutions and to all posterity.

I might write more upon this subject, but I forbear, lest I intrude too much upon your time and patience. I remain,

Very truly yours, DR. GEO. W. MALLORY.

LOWELL, MICHIGAN, November 25, 1882.

DR. GILCHRIST EXPLAINS.

TO THE PHYSICIAN AND SURGEON: In the November issue of your journal, on page 490, you state, referring to me: "The first was once Professor of Surgery in the homœopathic department of the University, where his incompetency as a rival to Dr. Maclean was so pronounced that he was removed at the solicitation of a delegation from the Homœopathic State Medical Society." Permit me to state, that I was not "removed" from the college; that no "delegation" from any corporate body solicited such removal; and that I was not in any sense in a position of "rivalry" to Dr. Maclean, or anyone else.

The termination of my connection with the college was in accordance with the terms of my appointment, which was for *one year.* On page 137 of the printed "Proceedings of the Board of Regents" for 1877, occurs the following: "*Resolved,* That J. G. Gilchrist, M. D., be, and is hereby appointed Lecturer on Surgical Therapeutics for the coming year in the Homœopathic Medical College, at a salary of $2,000 per annum. Adopted unanimously."

The complications in *our own faculty* at the time of my severing my connection with the college, made a change in our organization imperative, and no delegation from any state or other society appeared against me. The question was as to my becoming a candidate for a *full* chair of surgery, then to be established, and there were petitions, pretty equally divided, both for and against my candidacy. With these questions no person outside our own faculty had any concern. The question being reduced to a single alternative, either that one of my colleagues or myself should withdraw, the former being already a full Professor, I voluntarily withdrew from the candidacy, (*ibid* page 257), the Board of Regents honoring me with a handsome resolution upon receipt of my communication, (*vidé* same page.)

Trusting that you will do me the justice to give this reply as wide a circultaion as has already been given to the accusation, I remain, Very Respectfully,

J. G. Gilchrist.

Detroit, November 20, 1882.

IODOFORM AS A REMEDY FOR DIABETES MELLITUS.

Professor J. Moleschott gives five cases of diabetes which he treated with iodoform, and draws the following conclusions: Iodoform is a very promising remedy in diabetes mellitus; (1) because it causes a great diminution of the quantity of sugar in a few days, sometimes even causing it to disappear in a few days or weeks; (2) because when the remedy is discontinued sugar reappears in the urine as long as the cure is not complete, to disappear anew as soon as iodoform is again administered in increasing doses; (3) because improvement takes place even when the use of starchy food is not limited; (4) improvement follows even when the patient has to contend with care and over-work; lastly, because iodoform brought about a cure in a case which had withstood the action of salicylate of soda. By the use of the salicylate, three or four grammes daily, the quantity of urine in this case had been reduced to the normal, one thousand five hundred cubic centimetres, and the amount of sugar was little more than one gramme per day, at which amount it remained five weeks, to disappear entirely when iodoform had been substituted for twelve days.

Iodoform is useful even in the small quantities of ten to twenty centigrams per diem. The author gives:

℞. Iodoform	1.0.
Extr. lactac. sat	1.0.

M. For twenty pills.

Of these he gives from two times one up to four times two, in twenty-four hours. To cover the odor he adds to the mass 0.1 of cuminarium, the odoriferous principle of the tonka bean, two beans being sufficient to cover the odor of one hundred grammes of iodoform. The same principle can be obtained from the rue (ruta graveolens). M. E. PAGELSON.

BERLIN, GERMANY, October 24, 1882.

AN ANTISEPTIC PREPARATION.

EDITOR OF THE PHYSICIAN AND SURGEON: Has anybody mentioned the following preparation? I take equal parts of acid carbolic, oil eucalyptus and camphor, and rub them up with sweet oil or glycerine, or both, and keep the solution on hand.

Properly diluted with any essential oil it makes a safe and, in my hands, satisfactory topical application in diphtheria.

It is readily prepared for use with the steam atomizer by diluting with alcohol, and also in the same way for internal use in one-half drop doses.

Rubbed up with vaseline, it makes a very efficient remedy for a great variety of skin affections, and a nice dressing for ulcers and fresh wounds too, where disinfection is desired.

In diphtheria it proved a great help to me in a severe epidemic last spring, and I thought it better than anything else I had tried, because it is not hurtful to the sound tissue if properly prepared for use. The famous "Ozolicon" of a "big medicine man" near here is this preparation with a half dozen other inert ingredients. Yours, etc., J. A. BEEBE.

WESTFIELD, NEW YORK.

TRANSLATIONS.

Translations from Russian Journals for THE PHYSICIAN AND SURGEON.

BY RALPH D'ARY, M. D., ROMEO, MICHIGAN.

BICARBONATE OF SODA IN EXTENSIVE BURNS.

Bicarbonate of soda having been greatly extolled by Dr. Waters and others I determined to try its value in serious burns. During the summer of 1880 I had many recent cases of severe burns in the Odessa Hebrew Hospital. In three of these I tried the remedy, but all three proved fatal. I shall detail one case in which I used not only the soda in powder, but also the much lauded mixture of bicarbonate of soda, one ounce, spirits of camphor, three drachms, and distilled water, one pint.

August 13, 1880, at 10 o'clock P. M., there was brought to the hospital the citizeness Sura Sender, aged thirty, who had been burned about fifteen minutes before. A kerosene lamp had exploded in her hands, scattering the burning fluid over her breast and right sleeve. Enveloped by the flames and terrified she ran into the street, entreating a passer by to extinguish the flames, but he ran away from the burning woman. Her friends meanwhile had grasped some quilts and pillows, ran after her, overtook her, extinguished the flames, and threw water over her. Then they tore off the smouldering remnants of her clothing, wrapped her in a sheet and took her to the hospital.

On examination she was found to be a strongly built and well nourished woman. Her nose and cheeks were but slightly burnt, but the whole bosom was as hard as parchment to the touch, and in many places the epithelium hung in shreds. From the breast the burn extended in tongues as far as the back. The whole dorsum of the right hand, and the inner and outer aspects of the arm and forearm presented patches denuded of epithelium. The patient screamed and threw herself about in a desperate manner. Pulse 60, temperature not taken.

I ordered a bath to be prepared. Meanwhile, however, I sprinkled the burns thoroughly with bicarbonate of soda, placed wet towels on the breast, and applied linen bandages to the burnt upper extremity. During the application of the soda the patient's cries and gestures became still more violent. But in two or three minutes she became more quiet and said she felt better. I therefore countermanded the bath and ordered stimulants. An hour later I removed the bandage and towels, applied some more soda and rebandaged her. She then fell asleep, but screamed and groaned a great deal during the rest of the night.

The next morning she spent two hours in the bath. After that the above mixture was applied to the chest, and the hand and arm were again sprinkled with soda and bandaged. In the afternoon she had another bath. She felt tolerably well; pulse 72, temperature 37.5° Reaumur. She dined on strong beef tea and a gruel of Nestle's flour, with some sherry wine and coffee. On the fifteenth she had two prolonged baths and the same treatment. The flesh on the chest and arm was getting softer; the skin on the whole of the middle finger of the right hand had become black (superficial gangrene). Her general condition was satisfactory; she looked lively, conversed, and ate heartily. Pulse 72, temperature normal.

On the sixteenth the chest, arm, and forearm were of an ashen gray,—two baths and previous treatment were given. At 9½ P. M. she was in the same condition; she complained of nothing; her mother was sitting by her bedside conversing with her. Suddenly the patient ceased to speak and breathe. The nurse was called and found her pulseless, inanimate and without respiration. It was impossible to obtain consent for an autopsy.

In two other cases I used neither baths nor the lotion, only the soda bicarbonate by aspersion, but with the same sad result. Under the soda the wound neither granulates nor dries, as has been stated by some, but presents an oozing, dirty, surface. Of all the stated effects of the soda I can confirm only the temporary increase and subsequent subsidence of the pain.

Wishing to test the effect of the soda in burns of a lesser depth, and not possessing the fortitude of the American (Waters) I produced burns of the second degree on several dogs and rabbits, by shaving them, and then pouring boiling water over them. Sorting them according to size and age, I left some without any treatment; to others I applied the soda, and again to others the magisterium bismuthi (subnitrate of bismuth), believing that mechanical protection is the chief object of local applications. Although my experiments are few, yet the results have sufficiently discouraged me from continuing them. Some of the animals died, and those that I simply left alone progressed most satisfactorily. Let others continue to search for remedies.

In conclusion I will state that my colleagues in this hospital have obtained excellent results from dusting the burns with equal parts of florum zinci and pulveris lycopodii. They treated cases of burns no less severe than my three, but under this powder the wounds dried and progressed excellently.—B. A. Ochs in *Vratch.*

EXTRACT OF ERGOT IN DELIRIUM TREMENS.

In February, 1882, I was called to a patient suffering with delirium tremens and at the same time also with hemoptysis. He was excessively excited and had not slept for four days. I prescribed chloral hydrate, one drachm, divided in two doses, and also iron chloride. The chloral seemed only to increase the excitement, I therefore administered forty-five grains twice on the next day, but even this dose remained without effect, and the delirium and hemoptysis evidently increased. In the evening of the same day I again administered three doses of chloral, of fifty grains each, at intervals of fifteen minutes, and observed the patient personally. (That is, two hundred and forty grains in one day!) Ten minutes after the first dose, the delirium increased, and after the third dose the face became much flushed; the delirium continued very violent, and the pulse rose to one hundred and forty. Giving up all hopes to induce sleep by means of the chloral, I prescribed, as a hemostatic, infusum digitalis (grana decem), uncias fluidas sex, cum ergotini, granum unum, a tablespoonful every hour. After taking four or five doses the patient fell asleep and slept twelve hours. The next day he awoke free from delirium, but the hemoptysis continued. The medicine was continued until taken up and after the prescription had been repeated the patient recovered completely. Soon after I had a few more cases of delirium tremens to treat and used the same remedy. I have now treated altogether seven cases of delirium tremens in this manner, and although in the other cases I did not succeed in producing such prolonged sleep, yet in all of them the delirium ceased completely after one or one and one-half grains of ergotin had been taken. I have noticed however that on a return of the malady the ergotin was less effective than if it had been given before. One of the seven cases was chronic alcoholism. The patient was about forty years old, of strong constitution, intelligent, and had *daily* drank about twenty or more drachms of vodka (whiskey). And that for five or six years! At last he found himself in such a condition that he had to drink four or five glassfuls immediately on rising and had to keep up the stimulation thus attained by frequent subsequent libation. If he failed to drink whiskey immediately on rising, his hands shook violently, he felt nausea, had to vomit and experienced a peculiar torturing distress and unrest in the whole body, and a strong craving for whiskey. On drinking, some or all these symptoms disappeared. Before retiring at night the doses of whiskey had to be increased, otherwise he could not sleep and was subjected to hallucinations of the hearing and sight. In October 1881 he appealed to me for help to enable him to discontinue the use of whiskey. I prescribed the following mixture:

℞.	Ergotini	gr. ij.
	Potassii bromidi	ʒ ij.
	Aquæ	fl. ℥ viij.

S. A tablespoonful every hour or two.

The whiskey was stopped. After the first bottle he could sleep well and without hallucinations. The next day he had neither the tremor of the hands, nor the nausea, nor restlessness; and—above all—he had no craving for whiskey. This favorable condition continued till the middle of December. He took altogether four grains of ergotin, and after that, separately, another half ounce of bromide of potash.—A. Arnoldof, in *Vratsh.*

A VICTIM OF HYPNOTISM.

The *Novosty* contains the following: Madame P., a student of the graduating class of the Academy of Medicine, is at present taking treatment at the Gymnastic Therapeutic Institute of Dr. Benezet, Saint Petersburg. She is a victim of various experiments in hypnotism, to which she submitted at the hands

of Hansen. She suffers from general nervous disorders and sudden attacks of somnolence. So suddenly do the latter set in that she occasionally falls down in the midst of some gymnastic exercise, and remains immovable in a cataleptic trance. Sometimes these attacks come on while she is sitting, and sometimes when walking. In the course of one month she has had forty attacks. It is worthy of note that she is subject to them only in the house, never in the open air.

A CAUSE OF GASTRIC ABSCESS.

Dr. Aufrecht in *Centralbl. f. d. med. Wissenschaften* states that after having injected cantharidin in rabbits, with a view of producing artificial nephritis, he has found in their stomachs numerous round ulcers, containing clots of blood. He supposes that this interesting discovery may serve to shed some light on the etiology of round gastric ulcer. On the ground of careful microscopical examination the author ascribes the ulcer to a localized intense inflammation of gastric glands, with hyperæmia of the capillaries, whose walls are affected by inflammatory changes, and permit extravasation of blood. He concludes therefore that primary gastroadenitis circumscripta plays an important part in the etiology of round gastric abscess, but he does not deny that it may also arise in consequence of primary hemorrhage and embolus of the gastric vessels.—*Med. Vestnik.*

SAPO VIRIDIS.

In 1878 Kappesser made known the favorable effects of inunction with green soap, in strumous diseases of the glands and bones. This was afterwards confirmed by Hausmann, Klingelhöffer and Kollmann. Kappesser then extended the use of the remedy and reports good success in cases of consumptives with pleuritic exudations, hemoptysis, and night sweats. Now Dr. Beetz makes known that he was accidentally induced to use this remedy as far back as 1873, and found it very valuable in chronic adenitis, and various subcutaneous abscesses in children and adults. In cases of chronic adenitis or of abscess in situations where a bandage cannot conveniently be applied, the green soap is applied with thorough friction, every night, and washed off in the morning. This is repeated three or four days, or until the skin becomes irritated, when it is allowed a rest of twenty-four hours. In cases of acute adenitis or abscess in situations where a bandage is easily applicable (as for instance in paronychia of the fingers) bits of cloth are well soaked in soap spirits, applied to the affected part and well covered with rubber paper or similar material. It is important that the bandage should be carefully applied.

If the skin is very sensitive, liquid glycerine soap may be substituted. Instead of the green soap, sapo kalinus albus, or crême d'amondes amères (cream of bitter almonds) may be used. The spiritus saponatus kalinus, made with white soap, is better than that made with green soap.—Münch. Wochenschr., *Vratsh.*

Professor Senator, having tried the applications of green soap (or in more tender or refined patients of sapo kalinus albus with some fragrant oil) finds them really useful in strumous enlargements of the glands, and now he applies the same remedy in other diseases. He finds that in painless tertiary syphilitic enlargements, in pleuritic, pericardial, and peritonitic exudations, and in chronic serous effusions in the joints, (as a consequence of acute rheumatism) the thorough application of the soap is certainly and fully as efficient as the usual absorbent remedies—iodine and mercury, and have none of the drawbacks of the two latter remedies. The applications however, should not be made too often nor in two large quantity. He directs them to be made one or two, and in exceptional cases, three times a day, using every time a piece of soap the size of an almond or walnut. As soon as permanent redness of the skin appears, he intermits the applications.— Berl. Klin. Wochenschr.—*Vratsh.*

Kappesser describes his method of application as follows: He prescribes from one-half to one and a half tablespoonfuls of green soap (sapo viridis) to be well rubbed in, twice a week, at night. He makes but little difference in the quantity for children or adults. The rubbing should be done gently, for about ten minutes, and should be applied to the trunk and to the extremities. The soap may be thinned with a little warm water. After the application the soap is washed off and the skin wiped dry. In adults, on account of the greater surface, the applications may be made to the two longitudinal halves of the body alternately. According to the reports of several physicians who have used this method of treatment on Kappesser's recommendation in cases of children suffering with chronic ophthalmia equally good results may be obtained by bathing them in water containing a quantity of the soap in solution. The treatment may be prolonged a long time without harm. The mother of a little girl whom Kappesser had cured by this means of chronic ophthalmia, had continued the embrocations for a long time after the cure, as she found that the child throve unusually well under the treatment.—Berl. Klin., Wochenschr.—*Med. Obozr.*

[Sapo viridis is the sapo mollis of the British Pharmacopea, commonly called soft soap, and is made of olive oil and potash for officinal use. The common soft soap of the household is made of scraps of animal fat and unfit for medicinal use.

Soap-spirits=linimentum ammoniæ.

Sapo kalinus albus is similar to Castile soap, but made with potash, as the name indicates instead of soda.

Crême d'amandes amères (cream of bitter almonds) is made of almond oil and caustic soda and flavored with oil of bitter almonds. It is a thick fluid, as the name indicates.

Spiritus saponatus kalinus is similar to the linimentum ammoniæ, but made with potash.

It will be noticed that all the above preparations contain an alkali—either ammonia, soda or potash, and since equally good results seem to have been obtained from all the preparations it is but fair to infer that the alkali is really the active agent, whilst the other ingredients merely serve as a convenient vehicle.

It is well, in this connection to remember what Trousseau and Pidoux say about soda: "This substance was long confounded with potassa; and, in truth, the chemical and physical properties of the two are almost identical. Their therapeutic properties are almost alike. . . . We will point out, by the way, that the constipation of young children, which it is so hard to treat with internal remedies, yields almost immediately to the alkaline bath. For this purpose we do not dissolve the salt in the bath, but *soap the child's body* all over, *before* the bath, either with common soap, or better, with black soap, which is made with potassa." The mode of application corresponds with that of Kappesser, as above given.—D'ARY].

IODOFORM IN BURNS.

Dr. A. Selitsky in *Med. Vestnik* gives a very detailed history of a complicated case of burns of every degree, aggravated by lacerated wounds, caused by a premature explosion of a charge of powder in a cannon. In this case he used soda bicarbonate on some of the burns (of all three degrees) and iodoform in others (also of all degrees). The soda was used dry by aspersion; the iodoform in the following two forms:

(1)	℞.	Iodoformi	ʒ i.
		Olei jecoris aselli (morrhuæ)	℥ i. M.
(2)	℞.	Iodoformi	ʒ iij.
		Vaseline	℥ ij. M.

The old-fashioned carron oil was also used, in the following form:

(3)	℞.	Amygdal. dulcis olei,	
		Aquæ calcis	āā ℥ ss.
		Acidi carbolici	ʒ ss. M.

In every degree of burn the iodoform proved itself far superior to the other remedies. It quickly relieved the pain, redness and swelling of surrounding parts, drying and healing the wounds, whilst the carbonate of soda produced a dirty gray, very painful and bleeding surface, which was the last to heal. The pains did not abate at all where the carbonate of soda was used, but continued for days, when the burns on which iodoform had been used, were quite comfortable and healing favorably.

[In viewing the conflicting testimony about soda bicarbonate for burns, it seems pretty certain that the soda is an excellent local anodyne and anti-phlogistic for burns and scalds, but *only of the first degree, and where the epidermis is not broken or removed*, and if applied *immediately*, that is mostly in those cases which but rarely come under the care of a physician. I also believe that almost any non-caustic form of alkali is equally effective, such as soft soap or coarse hard soap, etc.—D'ARY.]

Translations from French Journals for THE PHYSICIAN AND SURGEON.

BY R. A. PACKWOOD, M. D., LES ILES, BERMUDAS, WEST INDIES.

PHLEGMONOUS INFLAMMATION OF MAXILLARY SINUSES, FRONTAL, SPHENOIDAL AND ETHMOIDAL CELLS.

Weichselbaum reports three cases of this affection of which classical treatises seldom make mention.

The course of the disease has invariably been rapidly fatal.

The *first* patient was a robust soldier, twenty-one years of age, who had always enjoyed good health, entered the Vienna military hospital, attacked with tetanus. This led gradually to an extremely debilitated condition, the temperature was elevated, and symptoms of meningitis declared themselves simultaneously with a slight icterus.

Some days later an erysipelatous patch appeared upon the right cheek, the following day patient died.

The course of the *second* case was still more rapid. A soldier, previously in good health, complained in the morning of April 26, of cephalgia and malaise, the next day of pains in the forehead and superior maxilla, without however, presenting any other objective sign than a febrile state. Toward evening his condition became suddenly aggravated, lips cyanosed, and respiration stertorous, he had convulsions, trismus, and died during the night.

Third case is that of a woman of sixty-four years of age, who after several days of malaise was seized with a chill, followed in a little time by erysipelas beginning at the nose and extending to the forehead and cranium. Death ensued four days later.

In each of these cases necroscopic examination revealed a singular condition of the frontal sinuses, maxillary, sphenoidal and ethmoidal cells. These cavities, particularly the maxillary sinus, were filled with a purulent liquid, while the borders were covered by opaque patches, yellowish white, disseminated or in contact, of the size of millet seed. These patches were only fibrinous exudates in the process of purulent liquefaction.

Further modifications were observed. In the *first* case an acute pachy meningitis, on a level with the anterior cerebral fossa, with a purulent leptomeningitis, and exstravasation into the pleural and pericardial tissues.

In the *second* case, where the disease had lasted only two days, the spleen was somewhat hypertrophied, the liver granular and in a state of fatty degeneration.

In the *third* case was found pachy and leptomeningitis with hypertrophy of the spleen, fatty degeneration of heart, liver and kidneys. The nasal fossae were but slightly altered, the mucus a little congested and ecchymosed.

Microscopically, these patches, which were of the greatest interest, consisted of a dense fibrinous reticulum in the interstices of which were strewn pus globules in greater or less number; the superficial layer of mucus was infiltrated as is the rule.

The author regards this affection as being, in an anatomical point of view, a croupous inflammation of that which is perhaps regarded as equivalent to the submucous tissue of other mucous membranes. The only difference is that in these cases the exudation is particularly fibrinous, whilst in the others it is rather purulent.

The disease should be considered as primarily infectious, terminating fatally in the first and third cases by extension to the meninges, whilst in the second death was caused by general infection of the organism.

NUX VOMICA AND STRYCHNIA: THEIR INDICATIONS IN THE DIGESTIVE DERANGEMENTS OF CHILDREN.

BY M. CHAMBARD.

The primary action of strychnia is to exalt sensibility. Secondary, to produce convulsions. It has little influence upon circulation and respiration—the peculiar action being upon the nervous and sub-cerebral systems exciting the tonicity of the muscular digestive canal. It may, therefore, be prescribed in affections characterized by *atonicity* of the digestive track so frequent in children. There exist several types: Sometimes the *dyspeptic* state depends upon *atonicity* from feebleness of the child and is ordinarily accompanied by constipation, notwithstanding lientery may be a consequence. This perturbation of functions is common in convalesence after severe diseases. Sometimes the same may be produced in children under the influence of a *billious* and *saburral* condition and appear in connection with a congested state of the abdominal organs. There are circumstances, however, in which repeated gastric embarrassments do not begin with a chill and should be placed in the category of extreme gluttony. Sometimes, on the contrary, *inervation* is *exalted* and intolerance of the digestive canal manifests itself by vomiting. This form of dyspepsia will be observed in girls approaching the age of puberty—from eight to fourteen. They begin to complain of gastralgia and dyspepsia—are generally constipated. After repast the epigastric region is distended and tender; their intelligence is above the average of that age—they are capricious and irritable. By these and other symptoms you may easily recognize children affected with a predisposition to precocious neuropathy.

In the two first cases we shall have recourse particularly to bitters and stimulants—and for these the formula may be:

℞. Tincturæ Cascarillæ,	
Tincturæ canellos,	
Tincturæ gentianæ,	
Tincturæ colombæ,	
Tincturæ rhei	āā grams v.
Tincturæ nucis vomicae	grams i to ij.

M. Sig.

This mixture constitutes a sort of aperient, of which may be given after each meal ten drops in a desert spoon of Bordeaux wine or wine of gentian in a little water.

We will generally get excellent results under these bitters and stimulants to the digestive functions. In chlorosis, anæmia, after debilitating diseases this preparation is very serviceable especially when combined with proper food, etc.

If constipation predominates augment the quantity of rhubarb and add tincture of belladonna:

℞. Tincture rhei	grams x.
Tincture belladonnæ	grams v.
Nucis vomicæ	grams j.

M. Sig. Dose, ten drops in wine as above.

To patients who can swallow wafers or powders suspended in water, the same substances may be administered in powder, when liquid preparations do not succeed.

℞. Powdered crab's eyes, sapili caucrori,	0.20 gram.
Calcined magnesia	0.15 gram.
Rhubarb	0.10 gram.
Nux vomica	0.05 gram.
Pepsine	0.05 gram.

The painful dyspepsia of neuropathic children may be combatted by supplying el. paregoric in place of nux vomica.

℞. Tincturæ columbæ,	
Tincturæ cascarillæ	āā grams .5.
Tincturæ belladonnæ	grams .2.
El. paregorici	grams .5.

M. Dose, ten drops in a little cold camomille tea.

Outdoor exercise, gymnastics, regular hours for eating, avoidance of stimulating articles, especially spices, coffee, etc.

should be insisted upon. To these may also be added systematic bathing, friction, etc. The use of saline and mineral waters will be found very servicable. If there is intestinal as well as gastric dyspepsia and marked meteorism—the abdomen may be rubbed with the following:

℞. Tincturæ nucis vomicæ	grams 5.	
Tincturæ belladonnæ	grams 5.	
Olei camphorate camomillæ	grams 15.	M.

Or one-sixtieth gramme of strychnia (neutral sulphate) may be added and made into an ointment.

The same ointment may be employed against *prolapsus ani*, so common in children and old men; the constant current of electricity, and from time to time the faradic current may be used as adjuncts.—*Progrès Mèdical.*

CONGENITAL SPASMODIC CONTRACTIONS.

Rupprecht characterizes this singular affection by the exaggeration of tendonous reflexes and tonic spasms of several symetrical muscular groups.

These spasms observed, as a rule in the inferior extremities, may come on suddenly in the active or passive state. Rarely they are produced in the superior members, in the dorsal and abdominal muscles, but the occular, pharyngeal and muscles of the face are also frequently involved.

Ten subjects which the author has examined appertained almost entirely to the category of premature births or difficult labors, and it was during the first months of life that the pathological condition was manifested in them.

In these patients the inferior members were stiff, the foot in forced extension and pointing inward, the knees crossed and in contact, so that walking could not be affected. With the growth of the patients the contractions diminished and the tendonous reflexes lost their intensity, so that the little patients could finally walk without help.

Treatment consists in tepid baths and the application of the continuous current along the vertebral column. Permanent deformities which may be produced often necessitate tenotomy of the tendo Achilles and the employment of orthopedic apparatus.

INOCULABILITY OF TUBERCULOSIS.

M. Giboux, communicating upon the inoculability of tuberculosis, by the respired air of phthisicals, observes: That rabbits enclosed in a box, in which the atmosphere expired by such patients is allowed to enter, are not long in exhibiting all the signs of tuberculosis.

NUX VOMICA AND STRYCHNIA IN INFANTILE PARALYSIS.

In this disease, *sensibility* is not so much concerned, as are *motility* and *nutrition* of the muscles.

The child may retire apparently well and awake in the morning with an elevated temperature and rapid pulse—the face is flushed—it has what the parents call a fever. Occasionally, the first symptom is a convulsion followed soon by a slight febrile train, at other times only fever exists, and this may continue six or eight days. On raising the child at the end of this time we notice that it is paralyzed; either paraplegia, hemiplegia or monoplegia, but always with a predominance of paralysis in a part of the body or certain muscular groups, which later are destined to atrophy. The treatment opposed to this affection is very different in the acute from what it is in the chronic stage.

In the *first* period the patient should be kept in bed and a sufficiently warm temperature maintained. Warm air-baths are indicated, at the same time moderate revulsion along the spinal column.

Interiorly may be administered tincture of aconite root, nervines and conium maculatum which diminishes reflex actions.

In the *second* stage you may continue to act upon the superior portion of the cord by dry cupping, tincture of iodine and iodized cotton, which may be continued several weeks. Then electrization may be made with the constant current, taking care to apply the positive pole to the vertebral column and the negative to the paralyzed member. This may be done fifteen to twenty minutes each day, watching the electrode so as to avoid eschars which may be produced almost painlessly—the electrode should have a sponge at the end; and be kept moist.

Friction with aromatic-volatile substances—sulphurous or saline baths twice a week, and regular gymnastics should be prescribed.

Internally may be administered tincture of nux vomica after meals in dose of five to ten drops according to age; this will tend to revive the muscular functions and combat atony of the digestive track.

In fine weather the patient may take sea-baths, chlorinated or sulphurous mineral baths.

Strychnia and nux vomica may also be employed in other nervous affections as weakness of convalescents, paresis produced in subjects who have remained a long time in a fixed position or paralysis which follows rheumatism frequently.

In these cases it will be well to alternate the employment of arsenic and strychnia, or the arseniate of strychnia may be given. Nux vomica has been vaunted principally by Trousseau as a remedy in chorea; he gives the preference to the syrup of the sulphate of strychnia in progressively augmented doses until the physiological effect is obtained. Chambard considering chorea as a rheumatismal affection, thinks it should be treated as such; that it may be moderated but not cured—nor its duration diminished—which is ordinarily three months—when of ordinary intensity.

Translations from German Journals for The Physician and Surgeon.

BY VICTOR C. VAUGHAN M. D.

USE OF IODOFORM IN VENEREAL DISEASES.

Prof. Sigmund (*Wien. Med. Presse*) uses iodoform in three forms: (1) Simply in a fine powder, (2) mixed with equal parts of milk sugar or lycopodium and deodorized with tonka bean, or with camphor (one to two parts of camphor to ten of iodoform, (3) suspended in sulphuric ether (one part of iodoform to from six to twelve of ether), and used as a spray. Before the application of the iodoform, the sore should be well cleansed and then carefully wiped dry with cotton-wool. After the application, the sore is covered with carbolized cotton or guttapercha paper. A feather or fine brush is used for dusting on the powder. When the spray is used the evaporation of the ether leaves the iodoform in a fine powder. S. uses this remedy in all suppurating venereal sores. The location of the sore determines the frequency of application. In places where the secretions soon wash away the powder, the applications must be made several times per day. S. has seen only beneficial results from the use of this drug. The swelling and redness rapidly diminish. In a very few cases, the patient complains of light, never severe, pains. Suppuration ceases under its use much sooner than under the other applications ordinarily made. In order to disguise the odor, S. uses camphor in the proportions already given. This does not completely hide the odor, but does so more fully than other things which have been tried.

CASE OF ACUTE SPINAL PERI-MENINGITIS.

Lemoine and Launois (*Revue de Med.*) report an interesting case, of which the following is an abstract. A soldier, twenty-two years of age, after an accidental fall, complained of a general uncomfortable sensation and of a pain in the back. During the night he was troubled with impeded respiration. On the fourth day there was complete paraplegia and anæsthesia extending up to the chest. There was great pain over the first and second dorsal vertebræ. The tendon reflex phenomenon was wanting, and the bladder and bowels were paralyzed. There was some fever, the temperature of the part affected was increased. On the next day the anæsthesia extended to the upper ribs, and the arms were powerless. There were later complete paralysis of the arms, a continuance of the pain over the vertebræ, increased dyspnoea and failure of the circulation. On the twelfth day he died. The mind remained clear until death.

Section showed a few drops of pus between the second and third dorsal vertebræ. There was also a small quantity of pus in the spinal canal between the seventh and eighth dorsal vertebræ. The membranes of the cord were not inflamed. Within the dura no pus could be found. The cord along the first three dorsal vertebræ was completely blanched. The most careful examination of the vertebræ failed to show any abnormality.

MACERATION OF THE SKIN IN A LIVING FŒTUS.

It is generally supposed that intrauterine maceration of the skin cannot occur until after the death of the fœtus. This view, however, is disproved by the following case reported by Sonden (*Hygiea*): May 24, 1882, about midday, a woman in labor was brought into a lying-in hospital in Stockholm. The pains had begun and the membranes had repturned the evening before. Examination showed that the fœtus lay in a transverse position and with the right arm extending into the vagina. Slight pains were produced by making vaginal examinations, but the os was tightly closed upon the protruding arm. The fœtal heart, beating feebly, could be heard in the region of the umbilicus. The woman was anæsthetiized with chloroform and the os dilated. On doing this a turbid, foul-smelling fluid escaped in small quantity. S. introduced his hand, caught a foot and turned. He noticed that the epidermis came off the leg where he seized it. He then thought that he must have been mistaken in supposing that he had heard the fœtal heart, but the child was delivered and the heart continued to beat for ten minutes longer, when it ceased and all efforts at restoration were useless. The cord and placenta were green.

RETENTION OF THE HEAD OF A FULL TERM CHILD IN THE UTERUS FOR TWENTY DAYS.

Valenta (*Archiv. f. Gynäkol*) reports the following case which illustrates the great tolerance of the uterus to a foreign body: A woman thirty-five years of age, had borne three children, and January 8, reached the termination of her fourth pregnancy. The shoulder presented, and the accoucheur, in attendance, drew down the arm and after many vain attempts at delivery he amputated the arm. He then introduced his hand, caught the feet and turned. He now delivered the body and finally decapitated, leaving the head in the womb, and leaving his patient in this unpleasant condition. Two physicians were called in and made various, but unsuccessful, attempts at extracting the head. For the first eight days they used warm water injections with the hope of exciting contractions. During all this time, the woman had no chill, and complained of nothing, only that the stench of the lochia was unbearable. Finally the woman was brought from her village to Laibach and placed under the care of V. At this time, her pulse was 72 and her temperature 37.5. V. used some disinfectant irrigations, and then recognizing the fact that he had an involuted uterus, simply distended with a forign body, to treat, he dilated the os with tupelo tents, and with a pair of strong polypus forceps removed the head a bone at a time. There were in the uterus, several pieces of the placenta, some of which were but slightly decomposed. The woman passed through all this without any reaction.

HYDROBROMIDE OF HOMATROPIN IN PHTHISIS.

Fronmüller (*Memorabilien*) reports sixteen cases of phthisis in which he has used this remedy. It, in all cases, either completely arrested or greatly diminished the night sweats. In ten of the cases a single dose of from 0.15 to 0.03 was sufficient to arrest the sweating. In three the agent was administered hypodermically, while in the other cases (thirteen) it was given in pill form. Only in four of the cases were there any evidences of atropia intoxication, and the symptoms in these were very slight, as dryness in the throat, giddiness of the head, etc. In no case was there dilatation of the pupil. The remedy not only arrested the sweat, but allayed the cough and produced a refreshing sleep. Its beneficial effects could be seen for several nights after its administration had ceased. It seems to arrest the tuberculous process. Whether this arrest can be prolonged or not by repeated administration of the drug remains to be determined by a more extensive trial.

TUBERCULOSIS OF THE FEMALE GENITAL ORGANS.

Lukasiewiez (*Inaug. Diss.*) describes two cases under this head. The first was a case of primary tuberculosis of the cervix. A woman, fifty-six years of age, had swollen lymphatic glands on the neck. Puncture of these brought out a clear liquid. There was some dullness at the apces of the lungs. There was great pain in the abdomen. Diarrhœa set in and the patient died.

Section showed tuberculosis of the portio vaginalis with cheesy degeneration. A careful examinntion of the body of the uterus and its appendages showed a normal condition.

The second was a case of tuberculosis of the ovary. A woman, twenty-one years of age, died of general tubercular disease. Section showed round cheesy nodules in the left ovary. The cheesy induration extended along the Fallopian tube and into the surrounding tissue.

Schamm concludes a lengthy article (*Archiv. f. Gynäkol*) upon tuberculosis of the Fallopian tubes with the following propositions: (1) The Fallopian tubes are involved in 4.2 per cent. of phthisical women, (2) this condition is most frequently met with between the twentieth and fortieth year, (3) primary tuberculosis of the tubes is very rarely met with, (4) simultaneous complication of the sexual and urinary organs is rare.

PREGNANCY IN A CASE OF PERSISTENT HYMEN.

Fabre (*Gaz. de Par.*) reports the following: November 6, 1880, a woman, aged twenty-seven, who had been married since January 11, 1880, was taken with labor pains. At 9 A. M. the membranes ruptured and the woman was then free from pain until evening, when pains again came on. The midwife, being unable to introduce her fingers into the vagina, sent for F. The doctor found a rigid unbroken hymen. This was torn, causing considerable hemorrhage, and the case left to nature. After a few hours a small female child was born. According to the husband, attempted coitus had always been painful to the wife; but was not so after her recovery from this confinement.

BOOK REVIEWS.

MEDICAL ELECTRICITY: A Practical Treatise on the Applications of Electricity to Medicine and Surgery. By Roberts Bartholow, A. M., M. D., LL. D., Professor of Materia Medica and General Therapeutics in the Jefferson Medical College of Philadelphia, etc., etc. Second Edition, enlarged and improved. With one hundred and nine illustrations. Philadelphia: Henry C. Lea's Son & Co., 1882.

A most excellent work, addressed by a practitioner to his fellow practitioners, and, therefore, thoroughly practical. Electricity and its applications in medicine, while almost totally discarded by a great majority of physicians, is treated by others with undue confidence and enthusiasm, in fact—to use plain terms—is made a hobby of and ridden to death. Most of the works on this subject that we have had opportunity to examine err in the latter respect. The one now before has the exceptional merit of clearly pointing out where the benefits to be derived from electricity must come. It contains all and everything that the practitioner needs in order to intelligently understand the nature and laws of the agent he is making use of, and for its proper application in practice. In a condensed, practical form, it presents to the physician all that he would wish to remember after perusing a whole library on medical electricity, including the results of the latest investigations. It is *the* book for the practitioner, and the necessity for a second edition proves that it has been appreciated by the profession.

An error, however, has slipped in, which, in view of the rare merit of the work, we should desire to overlook, were it not for the importance of the subject. We copy extracts:

(1) Page 130: "It is important to note that great differences exist in the reactions to the electrical current of paralyzed parts. In some cases the *paralysis of the muscles themselves may be complete, and yet the nerves and muscles react in a perfectly normal manner.* We observe this normal electro-contractibility in hemiplegia, whether due to cerebral hemorrhage, to embolism, or to tumors of the brain; also in some cases of myelitis, and in the slightest examples of some of the peripherial paralyses."

(2) Page 137: "When that part of the cord is healthy, from which the peripheral nerves are given off, and if the nerves and muscles are free from disease, the electrical reactions as well as the reflexes will be perfectly normal. Suppose, for example, a transverse myelitis exists above the dorso-lumbar enlargement of the cord, leaving the latter healthy, all of the muscles and nerves of the lower extremity deriving their innervation from this point, there will be no quantitative or qualitative changes in the electrical reactions, except it may be a somewhat more ready response to both forms of excitation."

(3) Page 138: "The reactions of degeneration* afford us very important diagnostic indications as to the seat of spinal lesions, and separate broadly the so-called 'spinal' from the 'cerebral' paralysis."

(4) On other pages we find detailed statements how electro-contractibility is gradually lost where the motor nerves of the muscles are effected, or that part of the spine from which they proceed.

(5) Page 142: "Electricity is also employed in the diagnosis of feigned affections. These are assumed paralytic affections, due to some railroad or other injury. Often important medico-legal questions arise and large sums are in question. More frequently than from any other cause, are local paralyses referred to the shock of a railroad accident, or to direct injury received. *The resulting paralysis is of the variety known as*

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*The following lines from page 132 will explain the term "reaction of degeneration": At first the muscle ceases to respond to the faradic current, then follows a period when it will still act to a slowly interrupted galvanic current, and finally it cannot react to any form of stimulation, nor to galvanic or faradic currents, never so powerful. These peculiarities, in due reaction of a diseased muscle have been called by Erb "reaction of degeneration."

spinal. (Italics our own.) When the local injury is alleged to have affected the plexus of nerves, as the brachial, an assumed paralysis results. When the injury to the nerves is genuine, there will occur the reactions of degeneration, and the muscles will not respond to a faradic current, as has been set forth repeatedly. When the paralysis is feigned, the patient may resist as he will, he cannot prevent muscular contraction according to the normal formula; when, of course, the attempted fraud will be exposed. Again, it is alleged that the spine was injured, and that paralysis of the inferior extremities (paraplegia) has resulted. The rules already laid down must be applied here. If that part of the spine which innervates the inferior extremities, bladder and rectum, is diseased, the reaction of degeneration will take place; but if the injury is entirely above the dorso-lumbar enlargement, very different results will be obtained—the muscles will respond readily to either current."

"If a tramp seeks admission to the comforts of a hospital on the pretense of having a paralyzed arm or leg, he may be surprised by a faradic current, causing vigorous contractions of the muscles."

On comparing these extracts the reader will see that our esteemed author contradicts his own statements in his conclusions, and the physician who would be misled by him would be liable, by his decisions, not only to be the cause of great injustice and perhaps inhumanity, but he might also seriously compromise his own professional prestige. The author's premises are correct, but his deductions erroneons. Electro-diagnosis, based on the rules given, could be useful in many cases to demonstrate the actual existence of paralytic lesions, which, however, would be sufficiently evident without the electric tests, but it could not prove that these lesions do not exist. Electro-diagnosis is, therefore, in this respect overestimated by the author. Supposing a tramp or railroad traveller complains of paralysis of an arm from an injury, and refers the injury to the lower part of the neck. If the electric current is now used, as a test, the muscles of the arm will either contract, or not. If not, the injury is established. If, however, they *do* contract, there is yet no proof that the injury does not exist, for does not our author state above that "in some cases paralysis may be complete and yet the nerves and muscles react in a perfectly normal manner?" The only thing that could be proved in this way might be the circumstance that the location of the injury was wrongly indicated by the sufferer, or his attorney. But this would not alleviate the condition of the unhappy tramp, nor relieve the railway company from responsibility, since the question is not "*where is the cause of the paralysis?*" but "*does paralysis exist or not?*" It is the interest of the defendant company to prove the non-existence of the disease, and this the electric test cannot do, although it may, in some cases, help the complainant to establish his injury.

Neither is the author's statement correct, that (1) the paralysis resulting from railroad accident must necessarily be spinal, and that (2) electricity can be depended on to diagnose cerebral from spinal paralysis for the following reasons: (*a*) A railroad accident may so injure a passenger that concussion of the brain, with extravasation or hemorrhage may take place and cause cerebral paralysis, without injury to the spine. (*b*) In such cases electrical diagnosis would be almost useless, since the general diagnostic symptoms would be quite sufficient to indicate the nature of the resulting paralysis.

But even if the electric test were employed, but little would be gained, for cerebral paralysis would react normally, like peripheral muscular paralysis, or like paralysis from injury or disease of the cord or meninges above the origin of motor nerves supplying the parts paralyzed.

Electro-diagnosis is, therefore, in our estimation, a useful adjunct, but reveals nothing that could not be clearly established without its aid. For where there is a complete failure of reaction to the electric current, this absence is due to serious traumatic lesion or atrophy of the muscles—both conditions sufficiently apparent to the touch and eye. Pseudo-hypertrophic paralysis, however, must be excepted, in favor of electricity.

We do wish we could blot out pages 142 and 143. Without them, the work would be a perfect one of its kind. The paper, type and illustrations are most excellent. D'ARY.

THE DISEASES OF WOMEN: THEIR PATHOLOGY, DIAGNOSIS AND TREATMENT INCLUDING THE DIAGNOSIS OF PREGNANCY. By Graily Hewitt, M. D., F. R. C. P., Professor of Midwifery and Diseases of Women in University College, London, etc., etc. Fourth American, from the third revised and enlarged London edition, with one hundred and thirty-two illustrations. Paper; pages, 751. Price, $1.25. Philadelphia: P. Blakiston, Son & Co., 1882. For sale by John Moore, Ann Arbor.

Dr. Hewitt has long been favorably known as an authority upon diseases of women, and we are glad to see this new edition of his work issued in such a form as to place it within the reach of every medical student and practitioner. The author states that this edition is substantially a new work, as it has been re-written and much enlarged. It contains the generalizations which have appeared to the writer during his long experience. Most writers upon this subject base all their theories of uterine pathology upon inflammation, and do not attempt to explain the cause of the inflammation. Dr. Hewitt states that there must be some peculiar conditions leading to the inflammation, and he bases his studies upon these conditions. In other words, while many writers consider only a symptom, he endeavors to ascertain the cause of the symptom. These causes are almost invariably found to be certain mal-positions of the uterus, as the various flexions. For this reason Dr. Hewitt's work has been called a "mechanical system."

He gives at the outset the following statements:

(*a*) "Patients suffering from symptoms of uterine inflammation (or, more properly, from symptoms referable to the uterus) are almost universally found to be affected with flexions or alterations in the shape of the uterus of easily magnified character, but varying in degree.

(*b*) "The change in the form and shape of the uterus is frequently brought about in consequence of the tissues of the uterus being previously in a state of unnatural softness, or may be often correctly designated as chronic inflammation.

(*c*) "The flexion once produced is not only liable to perpetuate itself, so to speak, but continues to act incessantly as the cause of the chronic inflammation."

Generally there are good reasons for placing flexions first in the order of sequence, and in some instances the flexion may be brought about by over-straining, as after parturition, or from accidents due to over-exertion in the non-gravid state.

It must not be thought, however, that all uterine pathology hinges on flexions. The uterus is liable to diseased states from other causes, as cancer, fibroid tumors, etc. But the majority of cases met with are due to flexions.

Some statistics are given, showing the frequency of flexions in uterine diseases, but we think that most practitioners will agree with our author on this point.

We have not space to enter upon a further analysis of this volume; but we may say that upon this practical foundation a work of great value to the physician has been produced.

DISEASES OF THE LIVER, WITH AND WITHOUT JAUNDICE, WITH THE SPECIAL APPLICATION OF PHYSIOLOGICAL CHEMISTRY TO THEIR DIAGNOSIS AND TREATMENT. By George Harley, M. D., F. R. S., Fellow of the Royal College of Physicians; Physician to University College Hospital and Professor in University College, London. Illustrated by colored plates and wood engraving. Cloth; pages, 751. Price, $5.00. Philadelphia: P. Blakiston, Son & Co., 1882.

As an expert in physiological chemistry, Dr. Harley is especially fitted for the study of the liver and its diseases. No one without special study in physiological chemistry is in a condition to study this organ. The chemistry of the bile, of its formation and its decomposition, must be understood. The glycogenic function of the organ must be studied, and also its effects upon nitrogeneous foods. Then, again, only the chemist is able to thoroughly study the urine, the composition of which is so often an index to the condition of the liver. Dr. Harley has possessed, as thoroughly as any one of the present day, all this knowledge, and he has used it to excellent advantage. He has produced a work which we predict will not only be authoritative at present, but on account of its advanced thoughts will become a classical work.

The author holds that the errors, which one every day sees committed in the differential diagnoses of diseases of the liver, are not, as he believes, due to uncertainty of their symptomatology and the inherent difficulties attached to their signs, but to the defective means adopted by physicians in attempting to unravel them. This, moreover, is not due to absence of means so much as to a disinclination to take the trouble of using them. The clinical teacher spends hour after hour with his students over patients with thoracic troubles, but neglects almost wholly, derangements of the liver. This arises from inadequacy of knowledge, on the part of the teacher, of physiological chemistry, which "is the only talisman which can unravel the tangled skein of secrets which involves the vast majority of hepatic disorders."

The various facts to be learned and the errors to be avoided in percussion of the liver are given. The author considers this organ as performing four distinct functions. These are: (1) a sugar manufacturing, (2) a fat modifying, (3) a calorifying, and (4) a bile forming function. The statement that liver forms milk-sugar as well as glucose seems to us to rest on insufficient grounds. It is more likely true that the mammary gland converts glucose into milk-sugar. Milk-sugar has never, so far as we know, been found in any other fluid of the body than milk.

The signs and symptoms of hepatic diseases and the methods of making differential diagnoses are given with great clearness. Then follows a chapter on hepatic remedies. The action of mercury in causing the expulsion of the contents of the gall bladder and in indirectly stimulating the secretion by releiving congestion is pointed out.

Under the head of "dietetics in diseases of the liver," the author gives the following rules:

(1) "All fatty matters are to be reduced to a minimum, and butter and bacon totally avoided in the vast majority of hepatic diseases.

(2) "All salted and special foods are to be shunned, such as corned beef, ham, sausage, Finnan haddocks, and all other kinds of salted fish.

(3) "All river fish are to be eschewed; salmon, trout and eels more especially. On the other hand, white sea fish in the shape of cod, sole, turbot, whiting, smelts, and dabs may be taken with impunity; but mackerel, pilchard, fresh herrings and sprats, ought not, as a rule, to be partaken of.

(4) "Pastry—whether as pie or tart crusts—dumplings, plum-pudding, and all heavy starchy and sweet dishes, are to

be avoided. Whereas, plain arrow-root, sago, tapioca, and such like light and pure farinaceous dishes, may be moderately indulged in.

(5) "The lean of mutton and beef is a better animal food because more nourishing and digestible than poultry or game. Pork, lamb and veal, being less nutritious, are to be avoided.

(6) "Beers and porter, port, madeira and sherry, are more likely to do harm than weak gin, whiskey or brandy and claret, hock or champagne."

The shameful adulterations practiced in making the so-called dry champagnes for the English market are pointed out. They are not dry, but *sour* wines, as sour as vinegar and thus frequently cause hepatic troubles.

Under the head of "general remarks on special forms of treatment," the following rules are given:

(1) "In the early stages of all cases of acute and severe hepatic diseases, an avoidance of rich nitrogenous foods is indispensable. No solids whatever should be given, and nitrogenous food only in the shape of beef-tea and milk. Slops is the word which most graphically defines the suitable diet, and of those, as every one knows, there is an endless variety to select from, so I need not waste time by enumerating them. Fruits when in season, such as grapes, oranges and strawberries, will, if the patient can take them, do good.

(2) "Let the patient drink freely. The more he drinks the better, for it favors elimination by kidneys, skin and lungs. In all cases attended with pyrexia, give iced beef-tea and milk, the juice of a fresh lemon, or better still, a lime in a bottle of aerated water, dilute raspberry vinegar, or anything else of that kind. Oxygenated water I have found both palatable and refreshing to the patient.

(3) "If the temperature of the body be high, reduce it by the application of ice-bags to the extremities, or even to the abdomen; but never to the chest, for fear of producing complications. Always take care that the ice-bags are changed from place to place, or the skin may be frost-bitten, an accident which occasionally occurs when the freezing mixture is kept too long on one place.

"The plan of placing the patient in a cold water bath is not nearly so good as the applying ice-bags; first on account of its exhausting effects, and secondly the trouble. When patients can afford it, a water mattress, in which the water can be frequently changed, may be used.

"In the treatment of some of the more common forms of pyrexial disease, this plan has been successfully adopted at University College Hospital, the Manchester Infirmary, and elsewhere. Where the above methods are inapplicable, begin by putting the patient into cotton sheets. Dispense with everything woolen. Sponge the whole of the body piecemeal (keeping all covered but the part being operated upon) with vinegar, milk or eau de Cologne and water, twice or thrice a day, for it is not only a cooling but a refreshing process to a feverish body.

(4) "When the pulse is high, and the patient's strength will bear it, reduce it by half or drop doses of the pharmacopœial. tinctura aconiti, or twenty minim dose of tincture digitalis given every hour or two; but stop the administration of either drug the moment the pulse falls to eighty. To be resumed if and when necessary.

(5) "Vomiting subdue by cold effervescing salines. Citrates of soda, potash, magnesia, and of caffein, will be found useful.

(6) "Diarrhœa control by chalk mixture, krameria, kino, and other such like forms of astringents.

(7) "Hemorrhage. As the causes of intestinal hemorrhage, which occasionally takes place in the course of cases of liver disease, are very various—occurring as it does in perforating gall-stones, contagious jaundice, and in chronic as well as in acute atrophy of the liver, a correct diagnosis of its cause must necessarily precede the selection of the plan of treatment. But in general terms it may be said that while, in cases of traumatic hepatic hemorrhage, ice-bags may be applied to the abdomen, in most of the other forms the repeated administration of

℞. Pulv. Aluminis..............................	gr. x.
Acidi Sulph. Aromat........................	♏ xxv.
Ferri Sulphatis.................................	gr. j.
Syrupi Tolutani................................	ʒ ij. M.

will in general be found of great service. A new form of hæmostatic introduced from America is Hazeline (the active principle of the bark of the witch-hazel), which in doses of from thirty drops and upwards is likewise efficacious.

(8) "When cerebral symptoms appear, apply, without a moment's delay, a freezing mixture of salt and pounded ice, in a water-proof bag, to the head; and never forget to keep the part of the bag in contact with the skin moist with water, as dry waterproof cloth is a bad conductor of cold. Liquor ammoniæ acetatis is useful in large doses, so also is James's Powder.

(9) "In order to procure sleep, never give an opiate, if it can be avoided, in consequence of its tending to stop the action of the liver, as well as that of the kidneys and bowels; first try the bromide or chloride of ammonium, and, if they will not do, chloral, lupuline, or hyoscyamus.

(10) "Keep the room as quiet as possible, the patient from speaking, and garrulous friends from approaching him. Stop his ears with cotton wool, and shade his eyes from light by dark blinds or a properly arranged screen, whenever there are the slightest cerebral symptoms present.

(11) "The temperature of the room should, when possible, always be maintained at between 60° and 65°. In summer, the reduction from a higher temperature to the above is most

easily affected by calico screens, moistened with carbolized water, being placed opposite and near to the open windows and doors, while, in winter, it is best raised to it by a briskly burning open fire; the patient's eyes being protected from its glare and flicker by a suitably arranged carbolized water screen. which has the additional and immense advantage of keeping the air in the room deodorized, to the benefit alike of patient and nurse.

(12) "Perspiration encourage by sweet spirits of nitre, spirit of juniper, squills and digitalis; for the skin is a potent eliminator of biliary substances.

(13) "The kidneys keep equally freely active. Fortunately in this case the same medicines which increase the perspiration also augment the urinary excretion.

(14) "The bowels ought in all cases to be kept open by the administration of simple purgatives; but at first it is well not only to clear out the intestines of all fæcal matter, but also to aid the action of the liver and kidneys by freeing them as far as is possible from congestion, by employing a remedy which possesses in itself this triple power of action—calomel, or if not calomel, at least mercury in some form or other. The more plethoric the patient, the bigger the dose. To the weak and emaciated should be given as small a one as will suffice to produce the desired effects, and nothing more.

(15) "As all the excretions are peculiarly offensive in cases of hepatic disease, they ought never to be allowed to remain in the room. As even the perspiration is in many cases not only unpleasant to the bystanders, but to the patients themselves, if they perspire freely, have the body sponged and the linen changed twice a day. In all the cases subsequently to be described in which jaundice occurs associated with fevers, pyæmia, and septicæmia, the perspiration is so offensive that the sponging should be done with tepid carbolized water, Condy's fluid, or some other form of disinfectant. The cleansing of the cuticle has the great advantage not only of mitigating the disagreeable odor, and soothing the feelings of the patient, but, by encouraging the perspiration and elimination of bile matters, of favoring convalescence.

(16) "For similar reasons, it is not only well to have deodorizers placed about the room, but even under the patient's bed.

(17) "When there is acute inflammation of the liver, apply either leeches or the cupping glasses; but in no case of hepatic germ-disease extract blood. In some cases it is even more likely that transfusion than depletion may be necessary in order to save the life of the patient. A new and simple method has recently been proposed, and is said to have been successfully practiced in Germany. It is simply to inject blood into the patient's abdominal cavity, and leave it there to take its chances of absorption by the peritoneum of the abdominal

walls, intestines, and other included organs with which it may come into contact.

(18) "A dry and brown tongue is an indication for alcoholic stimulants, even when the patient is delirious, for they sometimes both clean the tongue and mitigate the cerebral symptoms. Carbonate of ammonia in ten grain doses is an excellent stimulant in cases of liver disease with delirium, especially when given along with the liquor ammoniæ acetatis. In all cases where there is active delirium, keep the patient's head high; where there is a tendency to syncope or somnolence, low.

(19) "Coffee and tea are excellent stimulants in hepatic diseases, and may be administered cold during the very height of the fever, at the time all alcoholic stimulants are contraindicated. The proper time to use alcoholic stimulants is during the convalescent stage, when wine—even strong wine like port, and burgundy, or sound—not sour—champagne, is in all cases better than brandy, for the wine nourishes as well as stimulates.

(20) "In bad cases, the food and the medicine should be given in divided quantities alternately every half hour; but if the patient chances to be asleep—unless he happen to be in a continual state of drowsiness—he is not to be waked to get either his medicine or his food, as refreshing sleep is better than food, drink, or medicine—at any rate until he awakes.

(21) "Hiccup, though scarcely ever alluded to in books on liver diseases, is occasionally a most distressing symptom to the patient. It occurs only in very bad cases, generally in the aged, and in almost all of them it is found that the hepatic disturbance is associated with some form or other of germ-disease, pyæmic, septicæmic, or typhoid.

"The treatment I have found most successful is to administer hydrocyanic acid or a few drops of chloroform along with belladonna, aconite, or morphia. But as the hiccup sometimes resists these, I propose, on the next occasion, to try the effects of the inhalation of the following mixture, which I have found exceedingly beneficial in the subjugation of violent attacks of spasmodic asthma.

℞. Amyl Nitrit.................................... ʒ ss.
Sp. Æther. Sulph.............................. ʒ vj.
Sp. Ammon. Aromat. ad.................... ℥ j. M.

"A few drops are to be put on a handkerchief at a time, and the vapor gradually inhaled.

"No sooner is the crisis passed, especially if the liver affection should have been in any way connected with epizootic or miasmatic disease-germs, than it is necessary to administer generous diet, and likewise tonics."

We have given so much space to a notice of this volume, because we believe it deserving. We hope that many of our readers will furnish themselves with this exceedingly valuable work.

A TREATISE ON THE SCIENCE AND PRACTICE OF MEDICINE, OR, THE PATHOLOGY AND THERAPEUTICS OF INTERNAL DISEASES. By Alonzo B. Palmer, M. D., LL. D., Professor of Pathology and Practice of Medicine, and of Clinical Medicine, in the University of Michigan, Physician to the State University Hospital, etc., etc. Volume II. Cloth; pages, 866. Price, $5.00. New York: G. P. Putnam's Sons, 1882. For sale by Sheehan & Co., Ann Arbor.

This completes Professor Palmer's work on practice, and the two volumes form the most complete and thorough treatise on the subject yet furnished by an American author, and the work is one which will compare favorably with the best European production. For instance, in arrangement it is superior, at least to the American student, to Aitken, and it is more complete than Roberts or Bristowe. The first part of this volume deals with physical diagnosis, which is treated in a very happy manner, the practical bearings being brought out with great distinctness. Then follows a discussion of particular diseases of the respiratory system. This takes about three hundred pages, and is very satisfactory; especially is this true of the chapter on phthisis. On the treatment of phthisis, prophylactic measures are insisted upon. The extremes in over-eating and partial starvation are to be avoided. The excesses of nitrogenous food, as well as alcoholic beverages, act as irritants to the nervous system, and tend to lower vitality. "All the means, public or private, which tend to produce healthy localities and healthy homes should, by every means, be encouraged. Instruction in individual hygiene should be given, and compliance with its requirements urged. The marriage of consumptives, or those specially inclined to the disease, should be discouraged, not only on their own account but in reference to the continuance of the disease in their offspring. Consanguineous marriages should particularly be avoided, more especially if there be the least suspicion of a tendency to phthisis from the family history. If such marriages occur and offspring result, great care in their management should be observed, to prevent the development of the disease. The mother should be particularly watched over during pregnancy and confinement, and if at all feeble, she should not nurse the child."

The question of change of climate in chronic phthisis is entered into quite fully, and much important information on this point is given.

There is only one criticism that we have to make on this part of the work. The chapter on chronic nasal catarrh is unsatisfactory, inasmuch as the methods of distinguishing the different forms are not given.

One hundred pages are devoted to the diseases of the heart. On this subject great care is given to diagnosis and treatment, the two most important practical factors.

Urinary diseases are discussed in the next seventy pages, while diseases of the male sexual system, brain and nervous system, and those of parasitic origin are ably treated of in the latter half of the volume.

The work is an honor to the American profession. C.

QUESTIONS ON HUMAN ANATOMY. By Samuel O. L. Potter, A. M., M. D., Author of an Index of Comparative Therapeutics, and of the Lea Prize Essay of Jefferson Medical College on "Dyslalia, a Study of Speech and its Defects." Cloth; pages, 130. Price, $1.00. P. Blakiston, Son & Co., Philadelphia, 1882. For sale by John Moore, Ann Arbor.

This is a book that may be of value or may be detrimental to the student, according to the way in which he uses it. It contains questions on anatomy with answers. If the book is used along with practical dissection it will be of value, as every thing is given in a concise, yet complete form. If the student simply memorizes the answers in order to be able to pass an examination, it would have been better for him had the work never been written. It must not be thought, however, that the work is on the style of the ordinary "vest-pocket" anatomy; it is well illustrated and references in the answers are made by means of corresponding figures to the parts of the illustration.

THE NINTH ANNUAL REPORT OF THE SECRETARY OF THE STATE BOARD OF HEALTH OF THE STATE OF MICHIGAN FOR THE FISCAL YEAR, ENDING SEPTEMBER 30, 1882. Cloth; pages, 501. Lansing: W. S. George & Co., 1882.

The greater part of this volume consists of the papers read at the Sanitary Conventions at Flint and Battle Creek. The majority of these papers were noticed in THE PHYSICIAN AND SURGEON at the time, and many of them were published in full. The volume also contains the official transactions of the Board and reports on matters pertaining to the public health. The Board of Health of Michigan is doing a great work, and has been a prominent factor in the general awakening of the people on sanitary matters. Especial credit is due the Secretary of the Board, Dr. Baker.

A GUIDE TO THERAPEUTICS AND MATERIA MEDICA. By Robert Farquharson, M. D., F. R. C. P., late Lecturer on Materia Medica at Saint Mary's Medical School, etc. Enlarged and adapted to the United States Pharmacopœia, by Frank Woodbury, M. D., Physician to the German Hospital, Philadelphia. Cloth; pages 526. Price, $2.00. Philadelphia: H. C. Lea's Son & Co., 1882. For sale by John Moore, Ann Arbor.

The writer of this notice has used the previous editions of this work for several years as a text-book for his classes, and he has found it in many respects the most suitable book for that purpose. It contains nothing that is superfluous. The student should make himself complete master of its contents and then use the larger books as works of reference and more detailed descriptions of the actions and uses of medicine. The arrangement of the work is especially good. The physiological action and medicinal uses are placed in parallel columns, and thus it is shown at a glance how the latter depends upon the former. To medical students for their first year, and to pharmacy students for their course we recommend the work most highly.

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SELECTED ABSTRACTS.

A NOVEL EMPLOYMENT OF THE VAPOR OF ETHER.

BY W. A. DEWEY, M. D.

La Semaine Medicale of October 5 publishes the history of a proceeding which seems to me worthy of interest in a surgical point of view, since it shows the successful application of the mechanical use of the vapor of *ether*, in a case of removal of a foreign body from the stomach by section. A brief résume of the history of the case and operation may be of interest.

Pierre G., aged nineteen, occupation waiter in a café, where from time to time he occupied his leisure moments in diverting the clients at his own expense; among these diversions was a singular exercise which consisted in introducing into his œsophagus a teaspoon, twenty-four centimetres long, holding it there by the handle with the ends of his fingers, which he introduced into his mouth as far back as possible, then withdrawing it. One day in the midst of these exercises the spoon slipped out of his fingers, and by the involuntary movements of deglutition, descended into the stomach. He was taken to the Hospital Lariboisière and placed in the service of M. Félizet.

The symptoms complained of were a sense of constriction about the epigastrium, with great difficulty in respiration; inspiration being very painful.

Palpitation detected on the left side, a hard projection, pressure upon which augmented the pains localized on the left side, and by transmission it provoked a sensation of pricking below the region of the liver. The patient ejected, at short intervals, saliva mixed with mucosities, which continued until the time of operation. Bilious vomitings followed, which on the second day became very frequent and distressing.

On account of the length of the foreign body (twenty-four centimetres), of the fixation of its extremeties, and of the dangerous pressure which they would exercise on the coating of the stomach, with the presence of bilious vomiting, the suffering and inquietude of the patient, who implored a relief, M. Félizet decided to practice section of the stomach.

It is known that the accident most to be dreaded in this operation is peritonitis, which renders it necessary, then, to avoid at any price the escape of the gastric fluids into the peritoneal cavity. Although the numerous ovariotomies, etc., go to demonstrate the tolerance of the peritoneum for certain traumatisms it is proper to avoid as much as possible any unnecessary irritation of this membrane.

With this purpose in view, M. Félizet resolved to distend the stomach in order to place it in relation with the abdominal walls and thus facilitate the operation. The distension by a liquid would expose the peritoneal cavity to an extravasation, either from the passage of the sutures destined to fix the stomach to the abdominal walls, or in case of premature opening of that organ, the liquid mingled with the gastric juices would escape into the peritoneal cavity.

Thus it was that recourse was had to the vapor of *ether*, still better appropriated to this usage because its odor would give warning of the premature opening of the stomach.

The instrument employed for this purpose was the instrument of M. Faucher, for washing the stomach, slightly modified for the purpose in view, consisting of a rubber tube passing from a funnel through the nares into the stomach. From this tube branches another, which is attached to a glass balloon partially filled with *ether*. These tubes are furnished with cocks, to establish or interrupt the communication of the stomach with the funnell on one hand and with the balloon on the other.

This apparatus being in readiness, M. Félizet proceeded to operate two days after the accident. The first step being to thoroughly empty the stomach and wash it, by introducing vichy water and withdrawing it. The anæsthetic used was *chloroform* and the operation was performed under Lister's precautions. An incision was made about two centimetres below the edges of the left costal cartilages and about parallel with them, this incision was carried through the muscles, exposing the peritoneum.

At this time the tube of the instrument was passed through the nares into the stomach and the balloon of *ether* being plunged into water of a temperature of 60° centigrade, the stomach distends. On opening the peritoneum, the distended organ was seen bulging between the lips of the wound.

The remaining part of the operation was easily performed; the parietal and visceral layers of the peritoneum were joined together by sutures the whole extent of the circumference of the wound, the stomach opened, and the spoon, the buccal extremity of which was found wedged in the pylorus, was removed.

The patient recovered, except a small gastric fistula which, at the time of this article, has not fully healed. The recovery was unattended with any fever or discomfort.

It is principally owing to the ingenious and inoffensive method of distending the stomach, conceived by M. Félizet, that this case appears to present some value, and whether the vapor of *ether* can be further utilized in this line, or in some operations on the bladder, remains yet to be decided.—*Medical Times.*

BROMINE AS A DISINFECTANT.

In a paper on the above subject, read by Dr. Franke, of Charlottenburg, at the Berlin Apothecaries' Congress, attention was called to the difference between disinfection and deodorization, a fact which is not sufficiently appreciated by the general public. Recent experiments show that many supposed disinfectants which have been used with confidence are insufficient preservatives against many kinds of highly dangerous disease germs, also that many of the most virulent infections are inodorous. More reliable disinfectants than those now in use are needed. Bromine is now produced in increased quantities, and as an article of commerce has greatly decreased in price. Dr. Franke claims to have succeeded in obviating the difficulties which its strong corrosive qualities and other circumstances placed in the way of its general adoption. For mere deodorization a small quantity of bromine is sufficient, while a greater bulk is required for thorough disinfection. Berlin sanitary officials found that three and one-half ounces of bromine would disinfect a space of nine hundred and eighteen cubic feet against the most inveterate forms of infection, which sulphurous acid failed to remove. Other experiments showed that for simple deodorization one-third of an ounce hung up high is sufficient for a space of seven thousand cubic feet.—*London Lancet.*

PATHOLOGY AND TREATMENT OF WHOOPING-COUGH.

At a meeting of the Medical Society of London, October 16, Mr. Dolan read an abstract of his essay, on whooping-cough, to which had been awarded the Fothergillian medal. He does not agree with de Mussy that the malady is a bronchial adenopathy, its chief symptom being induced by pressure on the vagus by the enlarged glands, and showed that this glandular enlargement was not always present in pertussis, and further that the glands may be swollen without producing the characteristic cough. The disease bears much resemblance to those diseases, the cause of which are now believed to be minute organisms or fungi. Its highly contagious nature, period of incubation, efervescence and defervescence, its reguluar course and the immunity from subsequent attacks, were grounds of analogy, determining the place of pertussis in the group of deseases caused by protophytic fungi. Whooping-cough has been induced in rabbits by inoculating the trachea with sputa from the human subject. The author repeating these experiments found that whilst inoculation with the blood of whooping-cough patients was without effect, that of sputa and other secretions caused death. Admitting the fungoid nature of pertussis, its contagious property is easily explained by germs being thrown off into the air and received into the body, setting up constitutional disturbance, subsequently attacking the pulmonary epithelium, giving rise to all the phenomena of purtussis.

Of Treatment.—Necessity for isolation. Course of disease cannot be controlled, but patient should be placed in the most favorable circumstances. There is no panacea or specific remedy, but if a specific virus be the true explanation of its pathogeny, the lines on which its treatment and prohylaxis are to be pursued become clearer and more hopeful.—*Lancet.*

ABSOLVENT DRESSINGS.

In a paper from William Berry, M. R. C. S., to *London Lancet* of October 21, he claims that dry and infrequent dressings give the most satisfactory results in the treatment of wounds after operations. In treating all operative wounds he strives to observe the *three* cardinal points: (1) rest, (2) drainage, (3) pressure, based on physiological laws. In employing a dry and absorbent material next the wound, with a firm and equal pressure, and drainage so as to allow the escape of all fluids from the wound, the necessity for frequent dressing is diminished, and everything is favorable for healing. With a temperature under one hundred degrees and the dressing dry and comfortable, the parts can be left untouched without risk to the patient.

SULPHUR AND MALARIA.

The influence of sulphur compounds on organic life is familiar. Late observations show strong reasons for believing that the active agent of malaria also consists of low organisms. It is, therefore, not surprising if sulphur emanations should be found to exert a marked influence on malaria, and some facts have been lately collected by M. D'Abbadie, to show this is actually the case. In some places, laborers in sulphur works enjoy almost complete immunity from malarial influences, while of the inhabitants of neighboring villages, not less than ninety per cent. are attacked. In some travels in Greece, published by M. Fouque, is an account of the ruins of a large city situated in a marshy plain in which it is impossible to pass the night without being attacked with ague. Three hundred years ago, the city contained forty thousand inhabitants. Twenty years ago only two hundred persons remained, languishing and ill, the last of the number dying during Fouque's visit. The soil beneath the site of the city contains abundant deposits of sulphur, which was formerly worked, and the decadence of Zephyria dates from the discontinuance of these sulphur workings. In Ethiopia, certain elephant-hunters expose their naked bodies daily to the fumigations of sulphur, and they enjoy an almost complete immunity from malaria.—*Lancet*, October 21, 1882.

ALCOHOL IN TYPHOID FEVER.

In a clinical lecture delivered at the New York Hospital, reported by the *New York Medical Record*, Dr. Draper observed that the fever in typhoid is the cause of the rapid emaciation of the patient. When the temperature is highest the patient shows the most plainly the signs of extreme exhaustion. The fever is using up the patient by consumming the energy that is set free. Danger is diminished correspondingly with the reduction of the temperature. To reduce the temperature, is therefore the most important consideration. Drinks, beside their cooling effects, also facilitate the removal of effete materials from the system. The diet must not only be concentrated and rich in all the elements of animal fibre, but must be fluid. In *alcohol* these conditions are met. That alcohol is an antipyretic in cases of high temperature is not questioned. At the same time it stimulates and controls the heart, and is a food from which force for the vital functions, is eliminated. Being a very unstable hydro-carbon, it is therefore very conbustible, and thus supplies the energy which otherwise would be produced from the combustion of the patient's tissues. The specific effect of alcohol is to intoxicate; but when assimilated like a food this specific effect is not shown. In health, the intoxicating effect varies in different persons, which is due to a greater or less power of the individuals to digest alcohol. But in febrile conditions the ability to consume is uniform, and in all cases of typhoid fever, large quantities can be taken without any of the effects or symptoms of alcoholism. In fact, cerebral excitement is quieted by alcohol.

One of the most important elements in the treatment of fever, is to supply it with fuel—to feed it. Alcohol as a food is more easily disintegrated, hence it is indicated in all continued fevers, and particularly in typhoid, where the patient most suffers from the effects of combustion. It is required when the patient exhibits symptoms of great nervous prostration, with subsultus, delerium at night, with a position in bed indicating great physical debility, and a very dry tongue, all increasing with the increase of temperature. If alcohol be administered it will quiet delerium, jactitations will be less marked, skin moist, tongue improved, and the whole aspect of the case will be changed for the better. But if these favorable changes do not come, and all these symptoms are aggravated, the alcohol is doing harm. The alcohol is the potent property, fermented preparations are to be avoided. Brandy or whiskey is the form preferred for administration. It is best taken with the food, and given with milk it is diluted, and made bland. The amount to be given varies with the case. The symptoms being carefully and intelligently observed, it should be given until the desired effect is produced. The amount required varies from four to twenty-four ounces. In the majority of cases it will be necessary to give the larger portion in the twelve hours from 6 P. M. to 6 A. M.

TREATMENT OF STIFF JOINTS.

A paper read at the Annual meeting of the British Medical Association, by William Adams, F. R. C. S., contains the following principles governing the selection of cases of "stiff joints," that may be treated by forcible movements and the methods of procedure. The selection of cases must be based upon accurate pathological knowledge. Cases in which the articular cartilages are removed and the exposed osseous surfaces have united, or are directly connected by fibrous bands passing between them, that is, the properly so-called bony ankylosis or fibrous ankylosis, are not admissible to treatment by forcible movement. The existence of the articular cartilage is essential to the restoration of useful and permanent motion. The cases from which good results can be expected from treatment by forcible movement, are those in which the joints are stiffened by inflammatory thickening of the tissues external to the joint, including, however, the capsular ligament; and those stiffened by inflammatory adhesions.

Cases of a constitutional, must be distinguished from those of a local origin—whether the stiff joint was a result of scrofulous or strumous disease, or of rheumatism, or whether it resulted from ordinary inflamation, or from an accident in a healthy constitution. The healthy or nearly healthy condition of the articular cartilage may generally be inferred from the clinical history of the case, although it sometimes cannot be determined until the patient is under some anæsthetic, and the first attempt is made to move the joint.

The following classes of "stiff joints" are arranged in order from the most favorable to the most unfavorable, for treatment by forcible movement:

Class I—Cases of traumatic origin in healthy constitution, generally occurring in the adult.—In this class are put: (1) Cases occurring after dislocations, which have been reduced. These adhesions give away very easily, usually only one operation is required to give free movement. (2) Cases in which the joint may be stiff or motion only very limited, in unreduced dislocation of long standing. These cases seldom require more than one operation. (3) Cases of "stiff joints" after fracture into joints or in the neighborhood of joints. This includes Pott's fracture at the ankle, Colles's fracture at the wrist. In these cases strong intra-articular adhesions may exist requiring two or more efforts. The number of operations to be governed by the amount of inflammation by which the injury was followed. (4) Cases of "stiff joints" occurring after bruises, followed by inflammation of the joint. In these cases when motion cannot be sufficiently increased by ordinary movements, it is advisable to resort to forcible movements.

Class II—Cases following Rheumatic Inflammation of the Joint.—In this, as in the traumatic class, two favorable conditions for restoration of motion exist, namely: The absence of suppurative inflamation and of ulceration of the articular cartilages. This class of cases are arranged into three groupes: (1) Cases occurring after acute rheumatic inflammation. (2) Those occurring after gonorrhœal Rheumatism. (3) "Stiff joints" occurring after chronic rheumatic inflammation. Rarely is it neceseary to resort to forcible measures in the first variety. But in the second, where the stage of inflammation usually lasts for many months, the adhesions are dense and strong. The attempts to regain movements should be *mild* and repeated at intervals, not shorter than three weeks. The adhesions in the third variety yield readily under slight force. General passive movement is usually sufficient to restore and retain motion. These cases are not to be associated with those where movement of the joint is restricted and limited by osseous enlargements and other structural changes caused by *chronic rheumatic arthritis.*

Class III—Cases after Strumous disease of the Joint.—Suppurative inflammation with ulceration of the articular cartilages, usually accompany strumous disease of the joints, in consequence of which, they are unfavorable for treatment by forcible movement. Fibrous or bony ankylosis may be looked forward to as the best result that can be obtained.

Class IV—"Stiff Joints" following acute suppurative inflammation of pyæmic origin, and suppurative inflammations that extend from neighboring parts and involve the joint. These cases are esentially unfavorable for treatment, in consequence of destruction of the articular cartilages, and complete disorganization.

Class V—Cases consequent upon muscular contractions.—These are not stiffened by adhesions, but are rapidly fixed by contractions of the muscles that move the joint. Forcible movements ought never to be employed to overcome these contractions, hence, in this class it is totally inapplicable. Tenotomy and gradual mechanical extension will alwavs produce the desired freedom of motion.

Method of Procedure.—Considerable force, and even machinery, is used by some surgeons for "breaking down" joints, but where it is necessary to use so much force, there can be little hope of restoring permanently useful motion to the joint. In such cases the articular cartilages cannot be in a sufficiently healthy condition for good results.

Numerous accidents have been known to follow, when an extreme degree of force was applied. Long bones fractured, epiphyses separated, skin and other soft structures lacerated, blood vessels ruptured. Too much must not be attempted at the first operation. Use successive operations, repeated at intervals of two or three weeks. After each operation apply hot water dressings and weight extension. Absolute rest very necessary. Local vapor bath. By these procedures, pain and inflammation are avoided.—*Lancet.*

TREATMENT OF EPILEPSY BY BORAX.

A lad aged seventeen, was admitted as an out-door patient to Cumberland Infirmary, who had been subject to Epilepsy for four years. At first, fits occurred once a month; at time of admission they took place once a week. The attacks were very severe. Bromide of potassium was given in fifteen grain doses, soon to be increased to twenty grains, three times daily. Intervals between attacks slightly prolonged at first, but again increased in frequency. Borax was now given in fifteen grain doses, three times daily. No major fit has since occurred. A few attacks in which the teeth chattered and the head was thrown back, were noticed. Since then, a period of six months, no attack whatever has taken place.

No skin eruption occured during administration of the borax. Vomiting occasionally took place if the medicine was taken before meals.—*London Lancet*, October 21, 1882.

TREATMENT OF CARDIAC, HEPATIC AND RENAL DROPSY.

In dealing with cases of œdema and ascites dependent on heart, kidney or liver troubles, one or two points stand out prominently for consideration—the *advisability* of removing the fluid and the *means* of removing it. It is not desirable in all cases of dropsy to attempt the removal of fluid by either mechanical or medical means. In a certain proportion of cases, the routine use of agencies to get rid of fluid is to be avoided. The most important primary causes of effusion are: obstruction of the venous circulation, and insufficient renal activity with sequential hydræmia. But it is doubtful if these conditions are by themselves efficient causes of dropsy. Experiments seem to throw some doubt on the production of dropsy by venous obstruction alone. Defective secretion of urine is regarded by some the essential cause of cardiac and renal effusions, but there are strong reasons for doubting whether by itself, it does lead to dropsy. Obstructive suppression of urine lasting many days, does not usually cause dropsy. Suppression for a long time may occur in scarlatinal nephritis, without a trace of swelling.

Alteration in the *blood* or *blood pressure; Defective nerve supply* to vessels or tissues; *Structural alterations* in vessels and other tissues, are causes which aid others, and which sometimes produce their effects independently. Deficiency of albumen in the blood rendering it more serous; increase of blood pressure; diminution of blood corpuscles; impairment of nervous influence, causing dilatation of the capillaries; the lymphatic system obstructed or influenced and the balance between exudation and absorption destroyed; loss of vitality and impairment of absorbing power; loss of tone or elasticity of the connective tissue, facilitating the accumulation of water, are all potent factors to be studied.

When the effusion arises from obstructed circulation, or from defective water-excretion, the tissues being but little weakened, good results follow the elimination of water; but this measure fails in proportion as deterioration of tissue, altered blood, or weakened nerve supply, jointly or separately, take the lead in the causes of the dropsy.

In the earlier stages of heart-disease with anasarca, diuretics act admirably; as the general health fails they lose their power, still later, where elasticity of tissue is gone, the water cannot be drained when the tissues are pricked or tapped, much less can it be removed by exciting the kidney, skin or bowel action. We can, indeed, no more remove fluid from the tissues by these means than we can drain a soaked sponge by a trocar.

Now, the routine and continuous employment of eliminants of water where no good can result from the very nature of things, is an evil. A prolonged and useless administration of squills, juniper and potash salts, of jaborandi, jalap and eleterium cannot be devoid of injury. If a short trial of these leading remedies fail, it is better to resort to tonics and nutrients, than to try the hundred remedies of doubtful reputation. After a tonic treatment, combined with rest, remedies that were powerless become efficacious, and removing the water, cure the dropsy; diuresis may even set in without the use of other remedies. In cardiac dropsy, or in the acute form of Bright's disease, and in some cases of albuminuria, lasting many months, prolonged rest in bed, with tonic treatment, will be followed in a few weeks by profuse spontaneous diuresis.

The mode in which the removal of the fluid may best be accomplished.—When the dropsy is due to obstruction of the passage of blood through the portal vein, tapping is almost necessarily followed by fresh effusion. When chiefly due to an altered condition of the membrane lining the peritoneal cavity, mechanical removal of fluid may not be followed by a recurrence, a healthier condition having supervened. However, if the unhealthy condition be unchanged, the abdomen refills with great rapidity. In acute cirrhosis, with greatly dilated intestines and an abundance of fluid, the difficulty in breathing, and the discomfort of the patient are not even temporarily relieved by tapping. Nor is this procedure of any value in advanced cases of ascites dependent of cirrhosis tending to a lethal termination, or upon Bright's disease, or chronic heart trouble. But tapping soon, and if necessary, often, doing it before the patient is reduced or depressed, should be the rule, otherwise it gives no relief, only hastens the fatal result.

Diuretics are the next most active agents for removing water. There is great divergence of opinion about their value, due to their use in cases where they cannot possibly be of any use, and to the complete uselessness of some and slight value of others. But the potency and utility of some diuretics cannot be doubted. Digitalis and caffein are by far the most powerful. Saline diuretics rank next. Squills and juniper not reliable. Copaiba acts quickly but not uniformly. In *hepatic* dropsy, very active purgation is rarely beneficial. In *renal* dropsy it is often the only resource, and is most advantageous.

Diaphoretics are of but little value in cardiac or hepatic dropsy, but in renal cases they are of great service by eliminating materials from the blood which the kidneys fail to excrete.

The withholding of liquids in cases of dropsy was advocated, but now less importance is attached to the plan. Rigid abstinence is not best, but only such avoidance as can be borne without discomfort. But more accurate observations are required before the comparative advantages of an increase or decrease in supply of liquid to dropsical patients can be even approximately determined.—D. J. Leech, M. D., in *Lancet.*

MISCELLANEOUS ITEMS.

ONE, Carl Elbe, has brought suit for $25,000 against the Long Island College Hospital for alleged mal-treatment of a broken leg.

Two of our most highly prized exchanges, the *New York Medical Journal* and *The Sanitarian*, will be converted from monthlies into weeklies with the first of January next.

H. D. SCHMIDT, of New Orleans, who is well known as a careful microscopist, claims to have demonstrated that Koch's bacilli of tuberculosis are nothing more or less than fat crystals. Dr. S. dissolves them in hot ether.

THE OLD PROVERB.—A gentleman, who took to medicine late in life, said to a friend: "You know the old proverb, 'At forty a man must be a fool or a physician'?" "Yes," was the reply; "but, doctor, don't you think he can be both?"

The committee appointed to settle the claims arising from President Garfield's assassination, have allowed the medical attendants the following sums: Dr. Bliss, $6,500; Drs. Hamilton and Agnew, $5,000 each; Drs. Reyburn and Boynton, $4,000; Dr. Edson, $3,000.

THROUGH the kindness of Dr. Neal, now at Vienna, we have received a catalogue of the University of Vienna. During the summer semester of 1882, there were in the University 3,733 students. These were distributed among the departments as follows: theology, 191; law, 1,880; medicine, 1,206; philosophy, 456.

THE *Sanitary News*, devoted to sanitary matters in general, and under the able management of G. P. Brown, of the *Chicago Times*, has made its appearance. It is a semi-monthly and contains twelve double-column pages. There is need of such a journal, and we predict a successful and useful life for our newly arrived friend.

MEDICAL CONSULTATIONS.—The following epigram is quoted in a London medical journal, but the author's name is not given:

"A single doctor, like a sculler, plies;
The patient lingers and by inches dies;
But two physicians, like a pair of oars,
Waft him with swiftness to the Stygian shores."

WE have not complained when an exchange has made an occasional theft from our pages. We are willing that these journals should contain a good thing now and then even if they have to steal it. But when the *Monthly Review of Medicine and Pharmacy* copies three of our original articles *in toto* in one number without a word of credit, we think that it is time to cry "stop thief."

INFECTIVENESS OF MEASLES.—T. F. Pearse (*British Medical Journal*) after observing a number of cases of measles under the most favorable circumstances in regard to time of exposure, both before and after the appearance of the rash, concludes that the disease is infectious fully two weeks after the stage of desquamation; that the disease is infectious before the rash has appeared; that the period of incubation is ten days. His treatment consists of strict use of disinfectants; sponging night and morning with a solution of thymol; administering internally sulphite of soda in ten grain doses thrice daily.

SOME weeks ago a medical student in the University of Michigan, by the name of Morgan, who is an ex-minister, wrote a letter to the President of the University, charging Professor Frothingham with making frequent tirades, during his lectures, upon religion. As an instance, he claimed that in his lecture of November 7, Dr. F. stated that "ministers (meaning *all* ministers) are liars, and I do not know but they are the fathers of lies." Dr. F. arraigned Mr. Morgan before the faculty on the charge of falsehood, Dr. F. holding that he did not use the language which was ascribed to him by Morgan. A large number of students were called upon to testify. Some six or eight supported Morgan, while the others called upon, some seventy in number, held that the letter of Morgan was false. At a meeting of the faculty, when some of the members were not present, it was decided by a vote of three to two, notwithstanding the preponderance of evidence on the other side, that Dr. F.'s charges of falsehood and exaggeration against Morgan were not sustained. (Those who voted to sustain Morgan took the ground that his letter was not *wilfully* false). This practically condemned Dr. F., and the students who gave evidence in his favor were very indignant. But at a full meeting of the faculty it was decided that Mr. Morgan's letter, without any reference to the spirit in which it was written, was false.

That Mr. Morgan's letter was grossly exaggerated, indeed was false, there could be no doubt. It is but just to say that among the more than two hundred students present at the lecture, and who did not object to what was said, there were devout Catholics and earnest members of nearly every prominent protestant denomination.

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